

1 Supplementary Information - The Semantic Salah Ontology

Class	Description
Person	Represents an individual.
Posture	A superclass representing various postures within Salah.
JalsaPosture	Sitting posture during Salah.
QayamPosture	Standing posture during Salah.
QoumPosture	Transitional posture between Qayam and Ruku.
RukuPosture	Bowing posture during Salah.
SajdaPosture	Prostration posture during Salah.
TashahudPosture	Sitting posture for reciting the Tashahud.
PostureType	Describes the type of posture within Salah.
Rakah	Represents a unit of Salah, typically comprising a sequence of postures.
CompleteRakah	A fully completed Rakah in Salah.
CompletedThreeUnitRakah1	First completed Rakah in a three-unit Salah.
CompletedThreeUnitRakah2	Second completed Rakah in a three-unit Salah.
CompletedThreeUnitRakah3	Third completed Rakah in a three-unit Salah.
...	...
InCompleteRakah	An incomplete Rakah in Salah.
IncompletedFourUnitRakah1	First incomplete Rakah in a four-unit Salah.
IncompletedFourUnitRakah2	Second incomplete Rakah in a four-unit Salah.
IncompletedFourUnitRakah3	Third incomplete Rakah in a four-unit Salah.
IncompletedFourUnitRakah4	Fourth incomplete Rakah in a four-unit Salah.
...	...
Salah	Represents a Salah prayer session.
CompletedSalah	A Salah that has been performed correctly and completely.
IncompleteSalah	A Salah that has not been performed correctly or completely.
NonObligatorySalah	Optional Salah prayers.
FourRakahPrayerBeforeZuhr	Optional four-unit Salah before Zuhr.
TwoRakahPrayerAfterIsha	Optional two-unit Salah after Isha.
TwoRakahPrayerAfterMaghrib	Optional two-unit Salah after Maghrib.
TwoRakahPrayerAfterZuhr	Optional two-unit Salah after Zuhr.
TwoRakahPrayerBeforeFajar	Optional two-unit Salah before Fajr.
ObligatorySalah	Mandatory Salah prayers.
Asar	Afternoon Salah.
Fajr	Dawn Salah.
Isha	Night Salah.
Maghrib	Sunset Salah.
Zuhr	Noon Salah.
SalahStatus	Represents the status of a Salah, such as completed or incomplete.
SalahTimeWindow	Represents the prescribed time frame for performing Salah.
SalahType	Indicates the type of Salah, such as obligatory or non-obligatory.
SalahUnit	Represents a unit within Salah, such as a Rakah.
FourSalahUnit	A unit consisting of four Rakahs.
ThreeSalahUnit	A unit consisting of three Rakahs.
TwoSalahUnit	A unit consisting of two Rakahs.
SalahUnitCategory	Categorizes Salah units based on their obligation status.
NonObligatorySalah	Salah units that are not mandatory.
ObligatorySalah	Mandatory Salah units.
Timeliness	Indicates whether Salah was performed on time or late.
Late	Indicates that Salah was performed after the prescribed time window.
OnTime	Indicates that Salah was performed within the prescribed time window.

Table 1: Classes and their descriptions in the SemanticSalah ontology.

Object Property	Description
followedBy	Describes the sequential order of Salah units or postures, where one is followed by another.
hasCompletionStatus	Indicates the completion status of a Salah unit, such as complete or incomplete.
hasExtraRakah	Indicates the presence of an additional Rakah beyond the prescribed number for a Salah unit.
hasMissedPosture	Indicates the absence of a required posture within a Salah unit.
hasMissedRakah	Indicates the absence of a complete Rakah within a Salah unit.
hasPostureType	Specifies the type of posture within Salah, such as Qayam, Ruku, Sajda, etc.
hasPrescribedWindow	Specifies the prescribed time window for performing a Salah.
hasSalahType	Specifies the type of Salah, such as obligatory or non-obligatory.
hasSalahUnit	Indicates the specific unit within Salah, such as a Rakah.
hasSalahUnitCategory	Categorizes Salah units based on their obligation status.
hasSalahUnitType	Specifies the type of Salah unit, such as four-unit Salah or two-unit Salah.
hasStartingPosture	Indicates the initial posture within a Salah unit.
hasStartingRakah	Indicates the starting Rakah within a Salah session.
isOnTime	Indicates whether Salah was performed within the prescribed time window.
isPerformedBy	Specifies the individual who performed the Salah.
performs	Indicates the Salah session performed by an individual.
rakahFollowedByRakah	Indicates the sequential order of Rakahs within a Salah session.
schema:hasPart	Indicates the part-whole relationship within the ontology.
containsPosture	Specifies the postures contained within a Salah unit.
containsRakah	Specifies the Rakahs contained within a Salah unit.
schema:isPartOf	Indicates the inverse part-whole relationship within the ontology.
belongsToUnit	Specifies the unit to which a posture or Rakah belongs.

Table 2: Object Properties and their descriptions in the SemanticSalah ontology.

Data Property	Description
hasRakahNumber	Specifies the numerical order of a Rakah within a Salah unit.
hasRakahStatus	Indicates the completion status of a Rakah within a Salah unit, such as complete or incomplete.
hasSalahUnitStatus	Indicates the overall completion status of a Salah unit, such as complete or incomplete.
hasUnitRakahCount	Specifies the total number of Rakahs in a Salah unit.
hasWindowEndTime	Specifies the end time of the prescribed time window for performing a Salah.
hasWindowStartTime	Specifies the start time of the prescribed time window for performing a Salah.
isCompletedAtTime	Indicates the timestamp when a Salah unit was completed.
isStartedAtTime	Indicates the timestamp when a Salah unit was started.
performedinLocation	Specifies the location where the Salah was performed.
postureEndsAtTime	Indicates the timestamp when a posture within a Salah unit ends.
postureStartsAtTime	Indicates the timestamp when a posture within a Salah unit starts.
rakahCount	Specifies the total count of Rakahs performed in a Salah session.

Table 3: Data Properties and their descriptions in the SemanticSalah ontology.

2 Rules

2.1 Complete Rakah

Class Name	Equivalent Class Rules
FourSalahUnit	equivalent_to = [hasUnitRakahCount.value(4)]
ThreeSalahUnit	equivalent_to = [hasUnitRakahCount.value(3)]
TwoSalahUnit	equivalent_to = [hasUnitRakahCount.value(2)]

Class Name	Rules
FourUnit_Rakah1	equivalent_to = [Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(FourSalahUnit) & hasRakahNumber.value(1))]
FourUnit_Rakah2	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2))]
FourUnit_Rakah3	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3))]
FourUnit_Rakah4	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4))]
ThreeUnit_Rakah1	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1))]
ThreeUnit_Rakah2	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2))]
ThreeUnit_Rakah3	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3))]
TwoUnit_Rakah1	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1))]
TwoUnit_Rakah2	equivalent_to = [Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud))))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2))]

2.2 InComplete Rakah

Class Name	Class Rules
TwoUnitRakah1	equivalent_to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1)) Scenario 3: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1)) Scenario 4: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1)) Scenario 5: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1)) Scenario 6: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1)) Scenario 7: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1)) Scenario 8: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(1))

Class Name	Class Rules
TwoUnitRakah2	equivalent.to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 3: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 4: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 5: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 6: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 7: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 8: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2)) Scenario 9: Contains.some(Qayam & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))) & (belongsToUnit.some(TwoSalahUnit)) & hasRakahNumber.value(2))

Class Name	Rules
ThreeUnitRakah1	<pre> equivalent.to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) Scenario 3: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) Scenario 4: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) Scenario 5: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) Scenario 6: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) Scenario 7: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) Scenario 8: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(1)) </pre>

Class Name	Rules
ThreeUnitRakah2	<pre> equivalent.to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 3: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 4: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 5: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 6: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 7: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 8: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 9: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 10: Contains.some(Qayam & followedBy.some(Sajda & followedBy.some(Jalsa))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) Scenario 11: Contains.some(Qayam & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(2)) </pre>

Class Name	Rules
ThreeUnitRakah3	<pre> equivalent.to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) Scenario 3: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) Scenario 4: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) Scenario 5: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) Scenario 6: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) Scenario 7: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) Scenario 8: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(ThreeSalahUnit)) & hasRakahNumber.value(3)) </pre>

Class Name	Rules
FourUnitRakah1	<pre> equivalent.to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) Scenario 3: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) Scenario 4: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) Scenario 5: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) Scenario 6: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) Scenario 7: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) Scenario 8: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(1)) </pre>

Class Name	Rules
FourUnitRakah2	<pre> equivalent.to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) Scenario 3: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) Scenario 4: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) Scenario 5: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) Scenario 6: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) Scenario 7: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) Scenario 8: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(2)) </pre>

Class Name	Rules
FourUnitRakah3	<pre> equivalent.to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) Scenario 3: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) Scenario 4: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) Scenario 5: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) Scenario 6: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) Scenario 7: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) Scenario 8: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(3)) </pre>

Class Name	Rules
FourUnitRakah4	equivalent to = (Scenario 1: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 2: Contains.some(Qayam & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 3: Contains.some(Qayam & (followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 4: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 5: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 6: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Qoum & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 7: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Tashahud)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 8: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 9: Contains.some(Qayam & followedBy.some(Ruku & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4)) Scenario 10: Contains.some(Qayam & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Jalsa & followedBy.some(Sajda & followedBy.some(Tashahud)))))))) & (belongsToUnit.some(FourSalahUnit)) & hasRakahNumber.value(4))

3 SWRL RULES

3.1 Posture Types

Posture Rule	Conditions	Consequences
RukuPosture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Ruku")	hasPostureType(?pos, RukuType)
QoumPosture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Qoum")	hasPostureType(?pos, QoumType)
SajdaPosture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Sajda")	hasPostureType(?pos, SajdaType)
Sajda1Posture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Sajda1")	hasPostureType(?pos, SajdaType)
Sajda2Posture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Sajda2")	hasPostureType(?pos, SajdaType)
JalsaPosture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Jalsa")	hasPostureType(?pos, JalsaType)
Jalsa1Posture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Jalsa1")	hasPostureType(?pos, JalsaType)
TashahudPosture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Tashahud")	hasPostureType(?pos, TashahudType)
QayamPosture	Rakah(?r) Contains(?r, ?p) hasRakahNumber(?r, ?n) hasPostureName(?pos, "Qayam")	hasPostureType(?pos, QayamType)

3.2 Missed Postures

Rule Name	Antecedent	Consequent
TwoUnitMissedSajda2Rakah2	followedBy(?jalsa1, ?tashahud1) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?twounit) TwoSalahUnit(?twounit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, SajdaType)
TwoUnitMissedSajda2Rakah1	followedBy(?jalsa1, ?qayam2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?twounit) TwoSalahUnit(?twounit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, SajdaType)
TwoUnitMissedRukuRakah2	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?twounit) TwoSalahUnit(?twounit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, RukuType)
TwoUnitMissedRukuRakah1	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?twounit) TwoSalahUnit(?twounit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, RukuType)

Rule Name	Antecedent	Consequent
TwoUnitMissedQoumRakah2	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?twounit) TwoSalahUnit(?twounit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, Qoum-Type)
TwoUnitMissedQoumRakah1	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?twounit) TwoSalahUnit(?twounit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, Qoum-Type)
ThreeUnitMissedTashahudRakah2	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, TashahudType)
ThreeUnitMissedSajdaRakah3	followedBy(?jalsa1, ?tashahud1) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 3)	hasMissedPosture(?unit, SajdaType)

Rule Name	Antecedent	Consequent
ThreeUnitMissedSajdaRakah2	followedBy(?jalsa1, ?tashahud1) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, SajdaType)
ThreeUnitMissedSajdaRakah1	followedBy(?jalsa1, ?qayam2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, SajdaType)
ThreeUnitMissedRukuRakah3	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 3)	hasMissedPosture(?unit, RukuType)
ThreeUnitMissedRukuRakah2	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, RukuType)

Rule Name	Antecedent	Consequent
ThreeUnitMissedRukuRakah1	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, RukuType)
ThreeUnitMissedQoumRakah3	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 3)	hasMissedPosture(?unit, QoumType)
ThreeUnitMissedQoumRakah2	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, QoumType)
ThreeUnitMissedQoumRakah1	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?threeunit) ThreeSalahUnit(?threeunit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, QoumType)

Rule Name	Antecedent	Consequent
FourUnitMissedTashahudRakah2	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, TashahudType)
FourUnitMissedSajdaRakah4	followedBy(?jalsa1, ?tashahud1) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 4)	hasMissedPosture(?unit, SajdaType)
FourUnitMissedSajdaRakah3	followedBy(?jalsa1, ?qayam2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 3)	hasMissedPosture(?unit, SajdaType)
FourUnitMissedSajdaRakah2	followedBy(?jalsa1, ?tashahud1) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, SajdaType)

Rule Name	Antecedent	Consequent
FourUnitMissedSajdaRakah1	followedBy(?jalsa1, ?qayam2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?ruku1, ?qoum1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, SajdaType)
FourUnitMissedRukuRakah4	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 4)	hasMissedPosture(?unit, RukuType)
FourUnitMissedRukuRakah3	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 3)	hasMissedPosture(?unit, RukuType)
FourUnitMissedRukuRakah2	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, RukuType)

Rule Name	Antecedent	Consequent
FourUnitMissedRukuRakah1	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?qoum1, ?sajda1) followedBy(?qayam1, ?qoum1) Qayam(?qayam1) Qoum(?qoum1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, RukuType)
FourUnitMissedQoumRakah4	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 4)	hasMissedPosture(?unit, QoumType)
FourUnitMissedQoumRakah3	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 3)	hasMissedPosture(?unit, QoumType)
FourUnitMissedQoumRakah2	followedBy(?sajda2, ?tashahud1) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Tashahud(?tashahud1) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 2)	hasMissedPosture(?unit, QoumType)

Rule Name	Antecedent	Consequent
FourUnitMissedQoumRakah1	followedBy(?sajda2, ?qayam2) followedBy(?jalsa1, ?sajda2) followedBy(?sajda1, ?jalsa1) followedBy(?ruku1, ?sajda1) followedBy(?qayam1, ?ruku1) Qayam(?qayam1) Ruku(?ruku1) Sajda(?sajda1) Jalsa(?jalsa1) Sajda(?sajda2) Qayam(?qayam2) Contains(?unit, ?qayam1) belongsToUnit(?unit, ?fourunit) FourSalahUnit(?fourunit) hasRakahNumber(?unit, 1)	hasMissedPosture(?unit, QoumType)

3.3 Missed Rakah

Rule Name	Antecedent	Consequent
FourUnitMissedRakah2	SalahUnit(?su) hasUnitRakahCount(?count, 4) consistsOfRakah(?count, ?r1) hasRakahNumber(?r1, 1) rakahFollowedByRakah(?r1, ?r2) hasRakahNumber(?r2, 3) rakahFollowedByRakah(?r2, ?r3) hasRakahNumber(?r3, 4)	hasMissedRakah(?count, RakahTwo)
FourUnitMissedRakah3	SalahUnit(?su) hasUnitRakahCount(?count, 4) consistsOfRakah(?count, ?r1) hasRakahNumber(?r1, 1) rakahFollowedByRakah(?r1, ?r2) hasRakahNumber(?r2, 2) rakahFollowedByRakah(?r2, ?r3) hasRakahNumber(?r3, 4)	hasMissedRakah(?count, RakahThree)
ThreeUnitMissedRakah2	SalahUnit(?su) hasUnitRakahCount(?count, 3) consistsOfRakah(?count, ?r1) hasRakahNumber(?r1, 1) rakahFollowedByRakah(?r1, ?r2) hasRakahNumber(?r2, 3)	hasMissedRakah(?count, RakahTwo)

3.4 Extra Rakah

Rule Name	Antecedent	Consequent
FourUnitExtraRakah1	SalahUnit(?su) hasUnitRakahCount(?count, 4) consistsOfRakah(?count, ?r1) hasRakahNumber(?r1, 1) rakahFollowedByRakah(?r1, ?r2) hasRakahNumber(?r2, 2) rakahFollowedByRakah(?r2, ?r3) hasRakahNumber(?r3, 3) rakahFollowedByRakah(?r3, ?r4) hasRakahNumber(?r4, 4) rakahFollowedByRakah(?r4, ?r5) hasRakahNumber(?r5, 5)	hasExtraRakah(?count, Count1)
ThreeUnitExtraRakah1	SalahUnit(?su) hasUnitRakahCount(?count, 3) consistsOfRakah(?count, ?r1) hasRakahNumber(?r1, 1) rakahFollowedByRakah(?r1, ?r2) hasRakahNumber(?r2, 2) rakahFollowedByRakah(?r2, ?r3) hasRakahNumber(?r3, 3) rakahFollowedByRakah(?r3, ?r4) hasRakahNumber(?r4, 4)	hasExtraRakah(?count, Count1)
TwoUnitExtraRakah1	SalahUnit(?su) hasUnitRakahCount(?count, 2) consistsOfRakah(?count, ?r1) hasRakahNumber(?r1, 1) rakahFollowedByRakah(?r1, ?r2) hasRakahNumber(?r2, 2) rakahFollowedByRakah(?r2, ?r3) hasRakahNumber(?r3, 3)	hasMissedRakah(?count, Count1)