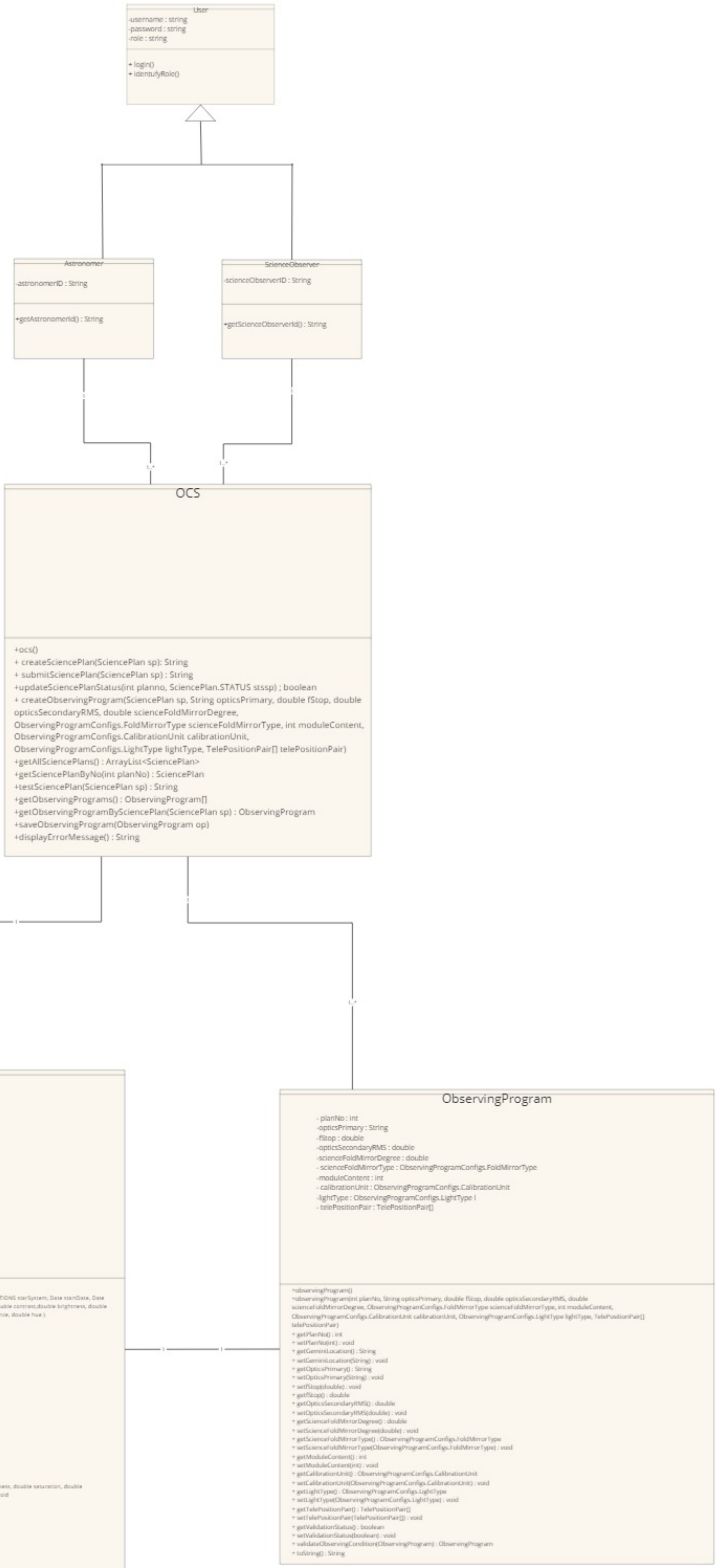
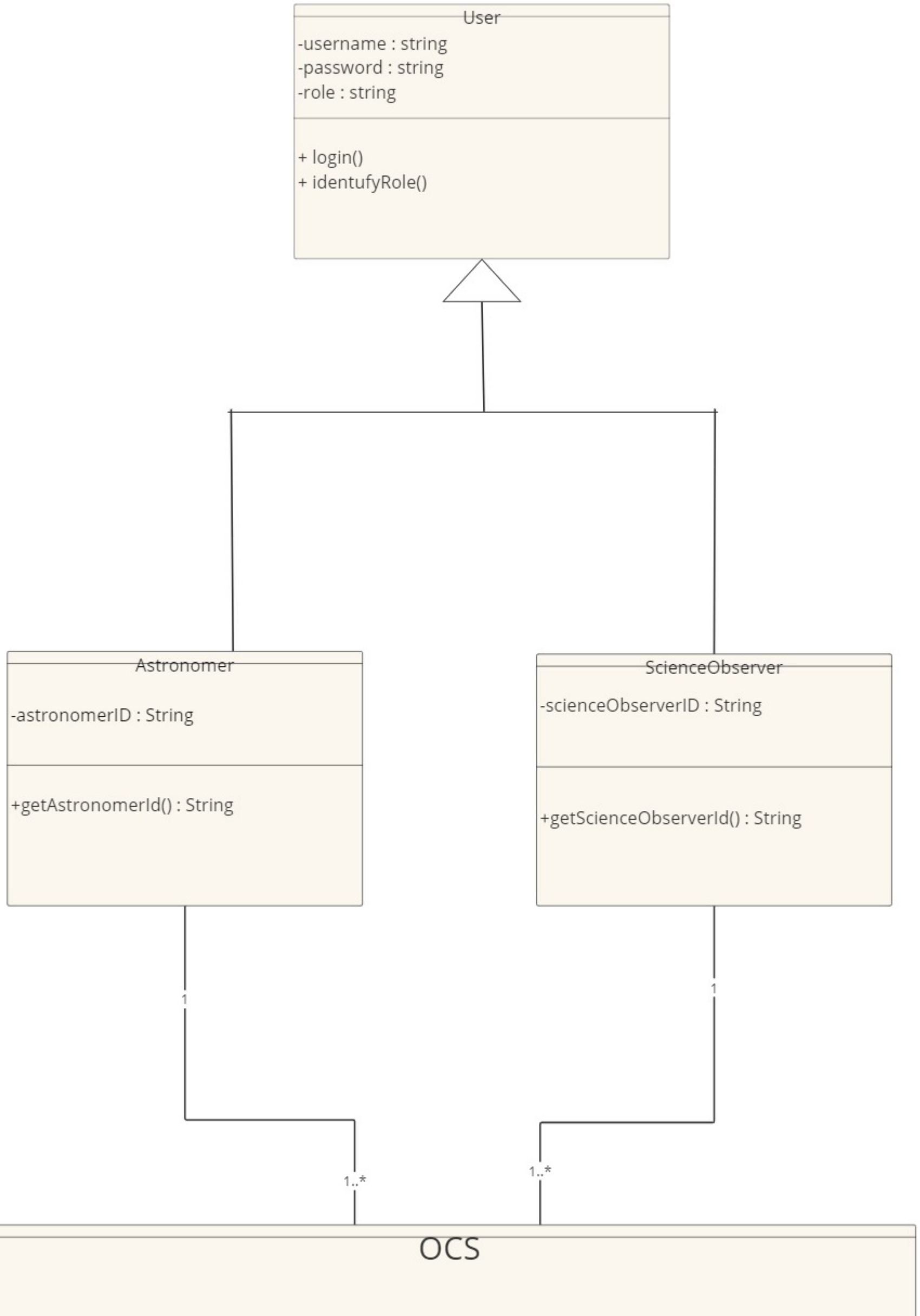
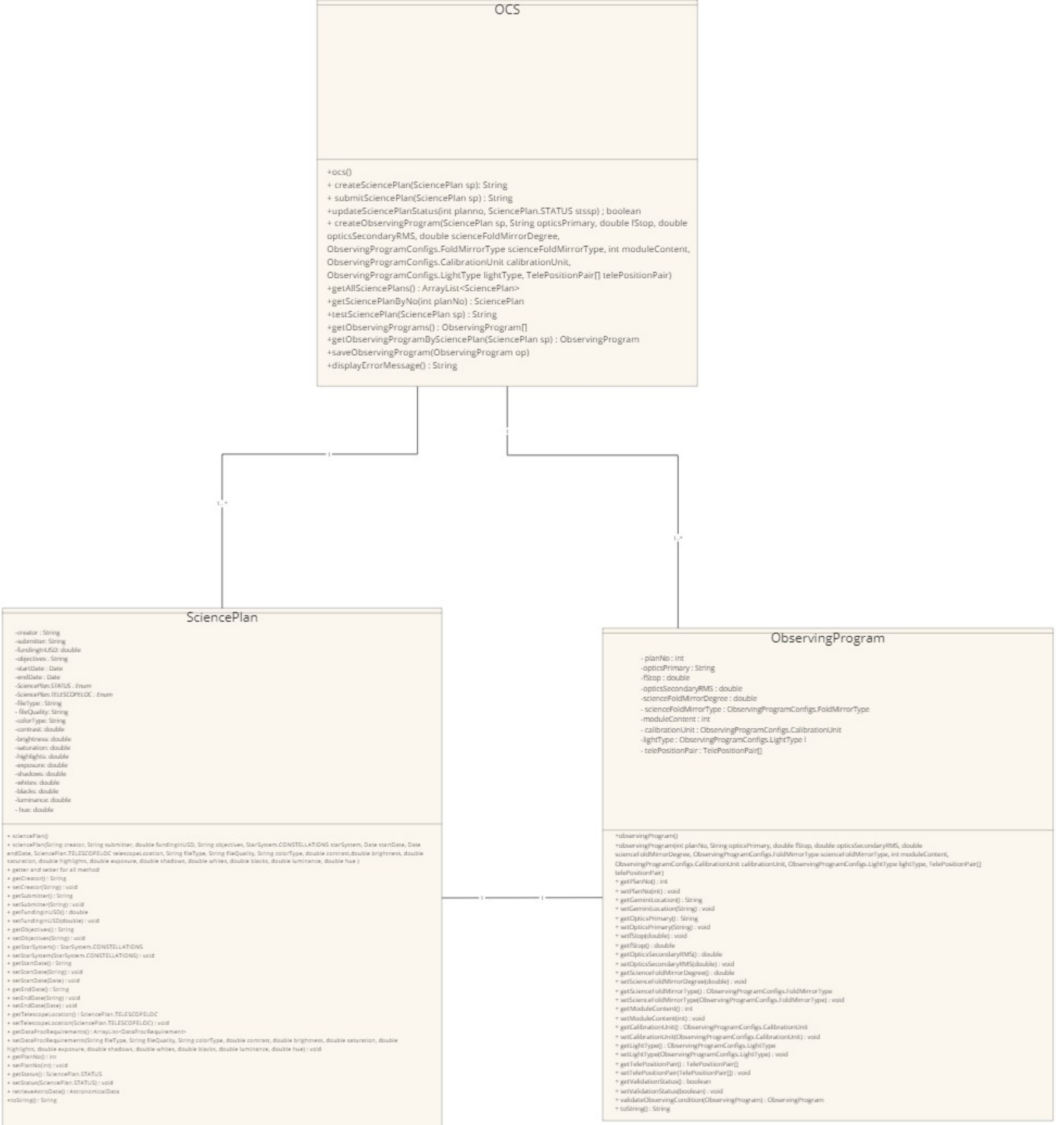

User
-username : string
-password : string
-role : string
+ login()
+ identufyRole()
Astronomer
-astronomerID : String
+getAstronomerId() : String
ScienceObserver
-scienceObserverID : String
+getScienceObserverId() : String
1
1..*
OCS
+ocs()
+ createSciencePlan(SciencePlan sp): String
+ submitSciencePlan(SciencePlan sp) : String
+updateSciencePlanStatus(int planno, SciencePlan.STATUS stssp) ; boolean
+ createObservingProgram(SciencePlan sp, String opticsPrimary, double fStop, double opticsSecondaryRMS, double scienceFoldMirrorDegree, ObservingProgramConfigs.FoldMirrorType scienceFoldMirrorType, int moduleContent, ObservingProgramConfigs.CalibrationUnit calibrationUnit, ObservingProgramConfigs.LightType lightType, TelePositionPair[] telePositionPair)
+getAllSciencePlans() : ArrayList<SciencePlan>
+getSciencePlanByNo(int planNo) : SciencePlan
+testSciencePlan(SciencePlan sp) : String
+getObservingPrograms() : ObservingProgram[]
+getObservingProgramBySciencePlan(SciencePlan sp) : ObservingProgram
+saveObservingProgram(ObservingProgram op)
+displayErrorMessage() : String
1
1..*
SciencePlan
-creator : String
-submitter: String
-fundingInUSD: double
-objectives : String
-startDate : Date
-endDate : Date
-SciencePlan.STATUS : Enum
-SciencePlan.TELESCOPELOC : Enum
-fileType : String
- fileQuality: String
-colorType: String
-contrast: double
-brightness: double
-saturation: double
-highlights: double
-exposure: double
-shadows: double
-whites: double
-blacks: double
-luminance: double
- hue: double
+ sciencePlan()
+ sciencePlan(String creator, String submitter, double fundingInUSD, String objectives, StarSystem.CONSTELLATIONS starSystem, Date startDate, Date endDate, SciencePlan.TELESCOPELOC telescopeLocation, String fileType, String fileQuality, String colorType, double contrast,double brightness, double saturation, double highlights, double exposure, double shadows, double whites, double blacks, double luminance, double hue)
+ getter and setter for all method
+ getCreator() : String
+ setCreator(String) : void
+ getSubmitter() : String
+ setSubmitter(String) : void
+ getFundingInUSD() : double
+ setFundingInUSD(double) : void
+ getObjectives() : String
+ setObjectives(String) : void
+ getStarSystem() : StarSystem.CONSTELLATIONS
+ setStarSystem(StarSystem.CONSTELLATIONS) : void
+ getStartDate() : String
+ setStartDate(String) : void
+ setStartDate(Date) : void
+ getEndDate() : String
+ setEndDate(String) : void
+ setEndDate(Date) : void
+ getTelescopeLocation() : SciencePlan.TELESCOPELOC
+ setTelescopeLocation(SciencePlan.TELESCOPELOC) : void
+ getDataProcRequirements() : ArrayList<DataProcRequirement>
+ setDataProcRequirements(String fileType, String fileQuality, String colorType, double contrast, double brightness, double saturation, double highlights, double exposure, double shadows, double whites, double blacks, double luminance, double hue) : void
+ getPlanNo() : int
+ setPlanNo(int) : void
+ getStatus() : SciencePlan.STATUS
+ setStatus(SciencePlan.STATUS) : void
+ retrieveAstroData() : AstronomicalData
+toString() : String
1
1..*
ObservingProgram
- planNo : Int
-opticsPrimary : String
-fStop : double
-opticsSecondaryRMS : double
-scienceFoldMirrorDegree : double
- scienceFoldMirrorType : ObservingProgramConfigs.FoldMirrorType
-moduleContent : int
- calibrationUnit : ObservingProgramConfigs.CalibrationUnit
-lightType : ObservingProgramConfigs.LightType l
- telePositionPair : TelePositionPair[]
+observingProgram()
+observingProgram(int planNo, String opticsPrimary, double fStop, double opticsSecondaryRMS, double scienceFoldMirrorDegree, ObservingProgramConfigs.FoldMirrorType scienceFoldMirrorType, int moduleContent, ObservingProgramConfigs.CalibrationUnit calibrationUnit, ObservingProgramConfigs.LightType lightType, TelePositionPair[] telePositionPair)
+ getPlanNo() : int
+ setPlanNo(int) : void
+ getGeminiLocation() : String
+ setGeminiLocation(String) : void
+ getOpticsPrimary() : String
+ setOpticsPrimary(String) : void
+ setFStop(double) : void
+ getFStop() : double
+ getOpticsSecondaryRMS() : double
+ setOpticsSecondaryRMS(double) : void
+ getScienceFoldMirrorDegree() : double
+ setScienceFoldMirrorDegree(double) : void
+ getScienceFoldMirrorType() : ObservingProgramConfigs.FoldMirrorType
+ setScienceFoldMirrorType(ObservingProgramConfigs.FoldMirrorType) : void
+ getModuleContent() : int
+ setModuleContent(int) : void
+ getCalibrationUnit() : ObservingProgramConfigs.CalibrationUnit
+ setCalibrationUnit(ObservingProgramConfigs.CalibrationUnit) : void
+ getLightType() : ObservingProgramConfigs.LightType
+ setLightType(ObservingProgramConfigs.LightType) : void
+ getTelePositionPair() : TelePositionPair[]
+ setTelePositionPair(TelePositionPair[]) : void
+ getValidationStatus() : boolean
+ setValidationStatus(boolean) : void
+ validateObservingCondition(ObservingProgram) : ObservingProgram
+ toString() : String


User
-username : string
-password : string
-role : string
+ login()
+ identufyRole()
Astronomer
-astronomerID : String
+getAstronomerId() : String
ScienceObserver
-scienceObserverID : String
+getScienceObserverId() : String
1
1
1..*
1..*
OCS

OCS

+ocs()
+ createSciencePlan(SciencePlan sp): String
+ submitSciencePlan(SciencePlan sp) : String
+updateSciencePlanStatus(int planno, SciencePlan.STATUS stssp) ; boolean
+ createObservingProgram(SciencePlan sp, String opticsPrimary, double fStop, double opticsSecondaryRMS, double scienceFoldMirrorDegree, ObservingProgramConfigs.FoldMirrorType scienceFoldMirrorType, int moduleContent, ObservingProgramConfigs.CalibrationUnit calibrationUnit, ObservingProgramConfigs.LightType lightType, TelePositionPair[] telePositionPair)
+getAllSciencePlans() : ArrayList<SciencePlan>
+getSciencePlanByNo(int planNo) : SciencePlan
+testSciencePlan(SciencePlan sp) : String
+getObservingPrograms() : ObservingProgram[]
+getObservingProgramBySciencePlan(SciencePlan sp) : ObservingProgram
+saveObservingProgram(ObservingProgram op)
+displayErrorMessage() : String


OCS
+ocs()
+ createSciencePlan(SciencePlan sp): String
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+updateSciencePlanStatus(int planno, SciencePlan.STATUS stssp) ; boolean
+ createObservingProgram(SciencePlan sp, String opticsPrimary, double fStop, double opticsSecondaryRMS, double scienceFoldMirrorDegree, ObservingProgramConfigs.FoldMirrorType scienceFoldMirrorType, int moduleContent, ObservingProgramConfigs.CalibrationUnit calibrationUnit, ObservingProgramConfigs.LightType lightType, TelePositionPair[] telePositionPair)
+getAllSciencePlans() : ArrayList<SciencePlan>
+getSciencePlanByNo(int planNo) : SciencePlan
+testSciencePlan(SciencePlan sp) : String
+getObservingPrograms() : ObservingProgram[]
+getObservingProgramBySciencePlan(SciencePlan sp) : ObservingProgram
+saveObservingProgram(ObservingProgram op)
+displayErrorMessage() : String
1
1..*
1..*
SciencePlan
-creator : String
-submitter: String
-fundingInUSD: double
-objectives : String
-startDate : Date
-endDate : Date
-SciencePlan.STATUS : Enum
-SciencePlan.TELESCOPELOC : Enum
-fileType : String
- fileQuality: String
-colorType: String
-contrast: double
-brightness: double
-saturation: double
-highlights: double
-exposure: double
-shadows: double
-whites: double
-blacks: double
-luminance: double
- hue: double
+ sciencePlan()
+ sciencePlan(String creator, String submitter, double fundingInUSD, String objectives, StarSystem.CONSTELLATIONS starSystem, Date startDate, Date endDate, SciencePlan.TELESCOPELOC telescopeLocation, String fileType, String fileQuality, String colorType, double contrast,double brightness, double saturation, double highlights, double exposure, double shadows, double whites, double blacks, double luminance, double hue)
+ getter and setter for all method
+ getCreator() : String
+ setCreator(String) : void
+ getSubmitter() : String
+ setSubmitter(String) : void
+ getFundingInUSD() : double
+ setFundingInUSD(double) : void
+ getObjectives() : String
+ setObjectives(String) : void
+ getStarSystem() : StarSystem.CONSTELLATIONS
+ setStarSystem(StarSystem.CONSTELLATIONS) : void
+ getStartDate() : String
+ setStartDate(String) : void
+ setStartDate(Date) : void
+ getEndDate() : String
+ setEndDate(String) : void
+ setEndDate(Date) : void
+ getTelescopeLocation() : SciencePlan.TELESCOPELOC
+ setTelescopeLocation(SciencePlan.TELESCOPELOC) : void
+ getDataProcRequirements() : ArrayList<DataProcRequirement>
+ setDataProcRequirements(String fileType, String fileQuality, String colorType, double contrast, double brightness, double saturation, double highlights, double exposure, double shadows, double whites, double blacks, double luminance, double hue) : void
+ getPlanNo() : int
+ setPlanNo(int) : void
+ getStatus() : SciencePlan.STATUS
+ setStatus(SciencePlan.STATUS) : void
+ retrieveAstroData() : AstronomicalData
+toString() : String
ObservingProgram
- planNo : int
-opticsPrimary : String
-fStop : double
-opticsSecondaryRMS : double
-scienceFoldMirrorDegree : double
- scienceFoldMirrorType : ObservingProgramConfigs.FoldMirrorType
-moduleContent : int
- calibrationUnit : ObservingProgramConfigs.CalibrationUnit
-lightType : ObservingProgramConfigs.LightType l
- telePositionPair : TelePositionPair[]
+observingProgram()
+observingProgram(int planNo, String opticsPrimary, double fStop, double opticsSecondaryRMS, double scienceFoldMirrorDegree, ObservingProgramConfigs.FoldMirrorType scienceFoldMirrorType, int moduleContent, ObservingProgramConfigs.CalibrationUnit calibrationUnit, ObservingProgramConfigs.LightType lightType, TelePositionPair[] telePositionPair)
+ getPlanNo() : int
+ setPlanNo(int) : void
+ getGeminiLocation() : String
+ setGeminiLocation(String) : void
+ getOpticsPrimary() : String
+ setOpticsPrimary(String) : void
+ setFStop(double) : void
+ getFStop() : double
+ getOpticsSecondaryRMS() : double
+ setOpticsSecondaryRMS(double) : void
+ getScienceFoldMirrorDegree() : double
+ setScienceFoldMirrorDegree(double) : void
+ getScienceFoldMirrorType() : ObservingProgramConfigs.FoldMirrorType
+ setScienceFoldMirrorType(ObservingProgramConfigs.FoldMirrorType) : void
+ getModuleContent() : int
+ setModuleContent(int) : void
+ getCalibrationUnit() : ObservingProgramConfigs.CalibrationUnit
+ setCalibrationUnit(ObservingProgramConfigs.CalibrationUnit) : void
+ getLightType() : ObservingProgramConfigs.LightType
+ setLightType(ObservingProgramConfigs.LightType) : void
+ getTelePositionPair() : TelePositionPair[]
+ setTelePositionPair(TelePositionPair[]) : void
+ getValidationStatus() : boolean
+ setValidationStatus(boolean) : void
+ validateObservingCondition(ObservingProgram) : ObservingProgram
+ toString() : String

SciencePlan

-creator : String
-submitter: String
-fundingInUSD: double
-objectives : String
-startDate : Date
-endDate : Date
-SciencePlan.STATUS : Enum
-SciencePlan.TELESCOPELOC : Enum
-fileType : String
- fileQuality: String
-colorType: String
-contrast: double
-brightness: double
-saturation: double
-highlights: double
-exposure: double
-shadows: double
-whites: double
-blacks: double
-luminance: double
- hue: double

+ sciencePlan()
+ sciencePlan(String creator, String submitter, double fundingInUSD, String objectives, StarSystem.CONSTELLATIONS starSystem, Date startDate, Date endDate, SciencePlan.TELESCOPELOC telescopeLocation, String fileType, String fileQuality, String colorType, double contrast,double brightness, double saturation, double highlights, double exposure, double shadows, double whites, double blacks, double luminance, double hue)
+ getter and setter for all method
+ getCreator() : String
+ setCreator(String) : void
+ getSubmitter() : String
+ setSubmitter(String) : void
+ getFundingInUSD() : double
+ setFundingInUSD(double) : void
+ getObjectives() : String
+ setObjectives(String) : void
+ getStarSystem() : StarSystem.CONSTELLATIONS
+ setStarSystem(StarSystem.CONSTELLATIONS) : void
+ getStartDate() : String
+ setStartDate(String) : void
+ setStartDate(Date) : void
+ getEndDate() : String
+ setEndDate(String) : void
+ setEndDate(Date) : void
+ getTelescopeLocation() : SciencePlan.TELESCOPELOC
+ setTelescopeLocation(SciencePlan.TELESCOPELOC) : void
+ getDataProcRequirements() : ArrayList<DataProcRequirement>
+ setDataProcRequirements(String fileType, String fileQuality, String colorType, double contrast, double brightness, double saturation, double highlights, double exposure, double shadows, double whites, double blacks, double luminance, double hue) : void
+ getPlanNo() : int
+ setPlanNo(int) : void
+ getStatus() : SciencePlan.STATUS
+ setStatus(SciencePlan.STATUS) : void
+ retrieveAstroData() : AstronomicalData
+toString() : String

ObservingProgram

- planNo : int
-opticsPrimary : String
-fStop : double
-opticsSecondaryRMS : double
-scienceFoldMirrorDegree : double
- scienceFoldMirrorType : ObservingProgramConfigs.FoldMirrorType
-moduleContent : int
- calibrationUnit : ObservingProgramConfigs.CalibrationUnit
-lightType : ObservingProgramConfigs.LightType l
- telePositionPair : TelePositionPair[]

+observingProgram()
+observingProgram(int planNo, String opticsPrimary, double fStop, double opticsSecondaryRMS, double scienceFoldMirrorDegree, ObservingProgramConfigs.FoldMirrorType scienceFoldMirrorType, int moduleContent, ObservingProgramConfigs.CalibrationUnit calibrationUnit, ObservingProgramConfigs.LightType lightType, TelePositionPair[] telePositionPair)
+ getPlanNo() : int
+ setPlanNo(int) : void
+ getGeminiLocation() : String
+ setGeminiLocation(String) : void
+ getOpticsPrimary() : String
+ setOpticsPrimary(String) : void
+ setfStop(double) : void
+ getfStop() : double
+ getOpticsSecondaryRMS() : double
+ setOpticsSecondaryRMS(double) : void
+ getScienceFoldMirrorDegree() : double
+ setScienceFoldMirrorDegree(double) : void
+ getScienceFoldMirrorType() : ObservingProgramConfigs.FoldMirrorType
+ setScienceFoldMirrorType(ObservingProgramConfigs.FoldMirrorType) : void
+ getModuleContent() : int
+ setModuleContent(int) : void
+ getCalibrationUnit() : ObservingProgramConfigs.CalibrationUnit
+ setCalibrationUnit(ObservingProgramConfigs.CalibrationUnit) : void
+ getLightType() : ObservingProgramConfigs.LightType
+ setLightType(ObservingProgramConfigs.LightType) : void
+ getTelePositionPair() : TelePositionPair[]
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