09 27 2022; 12:17:31PM Activity Log Started
09 27 2022; 12:17:32PM Opened Project H:\DAS\DAS 3.0\DAS3.2.3\project\LLITED\
09 27 2022; 12:22:29PM Mission Editor Changes Applied
09 27 2022; 12:22:31PM Project Data Saved To File
09 27 2022; 12:22:32PM Project Data Saved To File
09 27 2022; 12:22:40PM Project Data Saved To File
09 27 2022; 12:23:41PM Processing Requirement 4.3-1: Return Status : Not Run

==========
No Project Data Available
==========

========== End of Requirement 4.3-1 ==========
09 27 2022; 12:23:43PM Processing Requirement 4.3-2: Return Status : Passed

==========
No Project Data Available
==========

========== End of Requirement 4.3-2 ==========
09 27 2022; 12:30:06PM Processing Requirement 4.5-1: Return Status : Passed

==========
Run Data
==========

INPUT

Space Structure Name = LLITED
Space Structure Type = Payload
Perigee Altitude = 495.000 (km)
Apogee Altitude = 495.000 (km)
Inclination = 96.400 (deg)
RAAN = 0.000 (deg)
Argument of Perigee = 0.000 (deg)
Mean Anomaly = 0.000 (deg)
Final Area-To-Mass Ratio = 0.0236 (m^2/kg)
Start Year = 2023.125 (yr)
Initial Mass = 1.968 (kg)
Final Mass = 1.968 (kg)
Duration = 1.000 (yr)
Station-Kept = False
Abandoned = True
Long-Term Reentry = False

OUTPUT

Collision Probability = 1.9084E-07
Returned Message: Normal Processing
Date Range Message: Normal Date Range

Status = Pass

==========

========== End of Requirement 4.5-1 ==========

09 27 2022; 12:30:07PM Processing Requirement 4.6 Return Status : Passed

==========
Project Data
==========

INPUT

Space Structure Name = LLITED
Space Structure Type = Payload

Perigee Altitude = 495.000000 (km)
Apogee Altitude = 495.000000 (km)
Inclination = 96.400000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.023630 (m^2/kg)
Start Year = 2023.125000 (yr)
Initial Mass = 1.968000 (kg)
Final Mass = 1.968000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 432.391746 (km)
PMD Apogee Altitude = 454.008229 (km)
PMD Inclination = 96.407916 (deg)
PMD RAAN = 314.716032 (deg)
PMD Argument of Perigee = 63.904590 (deg)
PMD Mean Anomaly = 0.000000 (deg)
Long-Term Reentry = False

OUTPUT

Suggested Perigee Altitude = 432.391746 (km)
Suggested Apogee Altitude = 454.008229 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2024 (yr)
Requirement = 61
Compliance Status = Pass

==========

========== End of Requirement 4.6 ==========
09 27 2022; 12:30:18PM *********Processing Requirement 4.7-1
Return Status : Passed

```
***********INPUT****
 Item Number = 1

name = LLITED
quantity = 1
parent = 0
materialID = 8
type = Box
Aero Mass = 1.968000
Thermal Mass = 1.968000
Diameter/Width = 0.117000
Length = 0.170200
Height = 0.115000

name = Full Body Frame
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 1.817000
Thermal Mass = 0.341000
Diameter/Width = 0.108000
Length = 0.170200
Height = 0.101000

name = +X/+Y Frame
quantity = 1
parent = 2
materialID = 8
type = Box
Aero Mass = 1.220000
Thermal Mass = 0.173000
Diameter/Width = 0.102300
Length = 0.340500
Height = 0.016700

name = Bus Electronics
quantity = 7
parent = 3
materialID = 23
type = Box
Aero Mass = 0.045000
Thermal Mass = 0.045000
Diameter/Width = 0.080000
Length = 0.080000
Height = 0.004000

name = Avionics Bracket
quantity = 1
parent = 3
materialID = 8
type = Box
Aero Mass = 0.025000
```

```
Thermal Mass = 0.025000
Diameter/Width = 0.080000
Length = 0.095000
Height = 0.080000

name = Reaction Wheels
quantity = 1
parent = 3
materialID = 8
type = Box
Aero Mass = 0.058000
Thermal Mass = 0.001000
Diameter/Width = 0.034000
Length = 0.051000
Height = 0.032000

name = Motor With Wheel
quantity = 3
parent = 6
materialID = -1
type = Cylinder
Aero Mass = 0.013000
Thermal Mass = 0.013000
Diameter/Width = 0.012000
Length = 0.042400

name = Base
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 0.018000
Thermal Mass = 0.018000
Diameter/Width = 0.042800
Length = 0.096800
Height = 0.029200

name = Torque Rod
quantity = 3
parent = 3
materialID = -1
type = Cylinder
Aero Mass = 0.010000
Thermal Mass = 0.010000
Diameter/Width = 0.008000
Length = 0.078700

name = Battery
quantity = 4
parent = 3
materialID = 54
type = Cylinder
Aero Mass = 0.045000
Thermal Mass = 0.045000
```

```
Diameter/Width = 0.018000
Length = 0.065000

name = Wing Panel
quantity = 2
parent = 3
materialID = 23
type = Box
Aero Mass = 0.071000
Thermal Mass = 0.071000
Diameter/Width = 0.146000
Length = 0.164000
Height = 0.002000

name = Antenna
quantity = 3
parent = 3
materialID = 8
type = Box
Aero Mass = 0.015000
Thermal Mass = 0.015000
Diameter/Width = 0.038000
Length = 0.039000
Height = 0.005000

name = MFOV Star Tracker
quantity = 2
parent = 3
materialID = 8
type = Box
Aero Mass = 0.020000
Thermal Mass = 0.020000
Diameter/Width = 0.025000
Length = 0.035000
Height = 0.015000

name = Payload
quantity = 1
parent = 3
materialID = 8
type = Box
Aero Mass = 0.212000
Thermal Mass = 0.212000
Diameter/Width = 0.090000
Length = 0.092000
Height = 0.070000

name = -X/-Y Frame
quantity = 1
parent = 2
materialID = 8
type = Box
Aero Mass = 0.168000
Thermal Mass = 0.168000
```

Diameter/Width = 0.103000
Length = 0.340500
Height = 0.099000

name = Zenith Lid
quantity = 1
parent = 2
materialID = 8
type = Box
Aero Mass = 0.088000
Thermal Mass = 0.051000
Diameter/Width = 0.101000
Length = 0.106000
Height = 0.002300

name = PIP Sensor
quantity = 1
parent = 16
materialID = 8
type = Box
Aero Mass = 0.037000
Thermal Mass = 0.037000
Diameter/Width = 0.043000
Length = 0.076000
Height = 0.013000

name = Nadir Lid
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.150000
Thermal Mass = 0.060000
Diameter/Width = 0.101000
Length = 0.106000
Height = 0.012000

name = CTECS
quantity = 1
parent = 18
materialID = 40
type = Box
Aero Mass = 0.090000
Thermal Mass = 0.090000
Diameter/Width = 0.061000
Length = 0.061000
Height = 0.010000

**********OUTPUT****
Item Number = 1

name = LLITED
Demise Altitude = 77.992574
Debris Casualty Area = 0.000000

```
Impact Kinetic Energy = 0.000000

************************************
name = Full Body Frame
Demise Altitude = 77.420400
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = +X/+Y Frame
Demise Altitude = 77.116543
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = Bus Electronics
Demise Altitude = 76.135507
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = Avionics Bracket
Demise Altitude = 77.038363
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = Reaction Wheels
Demise Altitude = 77.108054
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = Motor With Wheel
Demise Altitude = 75.241486
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = Base
Demise Altitude = 76.989900
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = Torque Rod
Demise Altitude = 76.019947
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

************************************
name = Battery
Demise Altitude = 73.441699
Debris Casualty Area = 0.000000
```

Impact Kinetic Energy = 0.000000

****
name = Wing Panel
Demise Altitude = 76.536782
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = Antenna
Demise Altitude = 76.734908
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = MFOV Star Tracker
Demise Altitude = 76.596459
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = Payload
Demise Altitude = 76.346044
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = -X/-Y Frame
Demise Altitude = 77.253437
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = Zenith Lid
Demise Altitude = 77.126730
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = PIP Sensor
Demise Altitude = 76.723238
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = Nadir Lid
Demise Altitude = 77.680404
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = CTECS
Demise Altitude = 74.628005
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

****

========== End of Requirement 4.7-1 ==========
09 27 2022; 12:30:19PM Project Data Saved To File
09 27 2022; 12:33:13PM Science and Engineering - Orbit Lifetime/Dwell Time

INPUT

Start Year = 2023.125000 (yr)
Perigee Altitude = 495.000000 (km)
Apogee Altitude = 495.000000 (km)
Inclination = 96.400000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Area-To-Mass Ratio = 0.040430 (m^2/kg)

OUTPUT

Orbital Lifetime from Startyr = 0.980151 (yr)
Time Spent in LEO during Lifetime = 0.980151 (yr)
Last year of Propagation = 2024 (yr)
Returned Error Message: Object reentered
09 27 2022; 12:33:38PM Science and Engineering - Orbit Lifetime/Dwell Time

INPUT

Start Year = 2023.125000 (yr)
Perigee Altitude = 495.000000 (km)
Apogee Altitude = 495.000000 (km)
Inclination = 96.400000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Area-To-Mass Ratio = 0.023630 (m^2/kg)

OUTPUT

Orbital Lifetime from Startyr = 1.500342 (yr)
Time Spent in LEO during Lifetime = 1.500342 (yr)
Last year of Propagation = 2024 (yr)
Returned Error Message: Object reentered
09 27 2022; 12:33:57PM Science and Engineering - Orbit Lifetime/Dwell Time

INPUT

Start Year = 2023.125000 (yr)
Perigee Altitude = 495.000000 (km)
Apogee Altitude = 495.000000 (km)
Inclination = 96.400000 (deg)
RAAN = 0.000000 (deg)

```
      Argument of Perigee = 0.000000 (deg)
      Area-To-Mass Ratio = 0.006840 (m^2/kg)

**OUTPUT**

      Orbital Lifetime from Startyr = 4.257358 (yr)
      Time Spent in LEO during Lifetime  = 4.257358 (yr)
      Last year of Propagation = 2027 (yr)
      Returned Error Message: Object reentered
09 27 2022; 12:34:01PM Project Data Saved To File
```