```
pip install astropy
```

```
Requirement already satisfied: astropy in /usr/local/lib/python3.7/dist-packages (4.3
Requirement already satisfied: importlib-metadata in /usr/local/lib/python3.7/dist-pa
Requirement already satisfied: numpy>=1.17 in /usr/local/lib/python3.7/dist-packages
Requirement already satisfied: pyerfa>=1.7.3 in /usr/local/lib/python3.7/dist-package
Requirement already satisfied: zipp>=0.5 in /usr/local/lib/python3.7/dist-packages (f
Requirement already satisfied: typing-extensions>=3.6.4 in /usr/local/lib/python3.7/d
```

```
from astropy.cosmology import WMAP9 as cosmo
from astropy import units as u
a=float(input("Enter the value of scale factor:"))
#calculation of redshift,z
z=(1/a)-1
d=float(input("Enter distance of galaxy from planet:"))   #if distance is 5 million light
#h0=hubble's constant
#calculating hubble's constant
h0=cosmo.H(z)
#age=age of universe
age=cosmo.age(z)
#size=size of universe
size=float(input("Enter size of the universe observer is in:"))  #if distance is 5 million
#calculating distance upto which galaxy can be seen
distance=size-d
#rs=speed of recession of galaxy
rs=d*h0
#conversion of megaparsec to km
x = 1.0 * u.megaparsec
y=x.to(u.km)
#calculating time(t) upto which galaxy can be seen
t=(distance*y)/rs
print("Time period(in seconds) to know  about a galaxy is: "+ str(t))
```

```
Enter the value of scale factor:10
Enter distance of galaxy from planet:3.26
Enter size of the universe observer is in:3.3
Time period(in seconds) to know  about a galaxy is6465121076018565.0 Mpc s
```

```
from astropy import units as u
x = 1.0 * u.megaparsec
y=x.to(u.km)
print(y)
```

```
3.085677581491367e+19 km
```