In [1]:
```
from matplotlib import pyplot as plt
import pandas as pd
import numpy as np
import warnings
warnings.filterwarnings('ignore')
```

In [2]:
```
df = pd.read_csv('cloudy_scrip2_ovr.csv')
df.head()
```

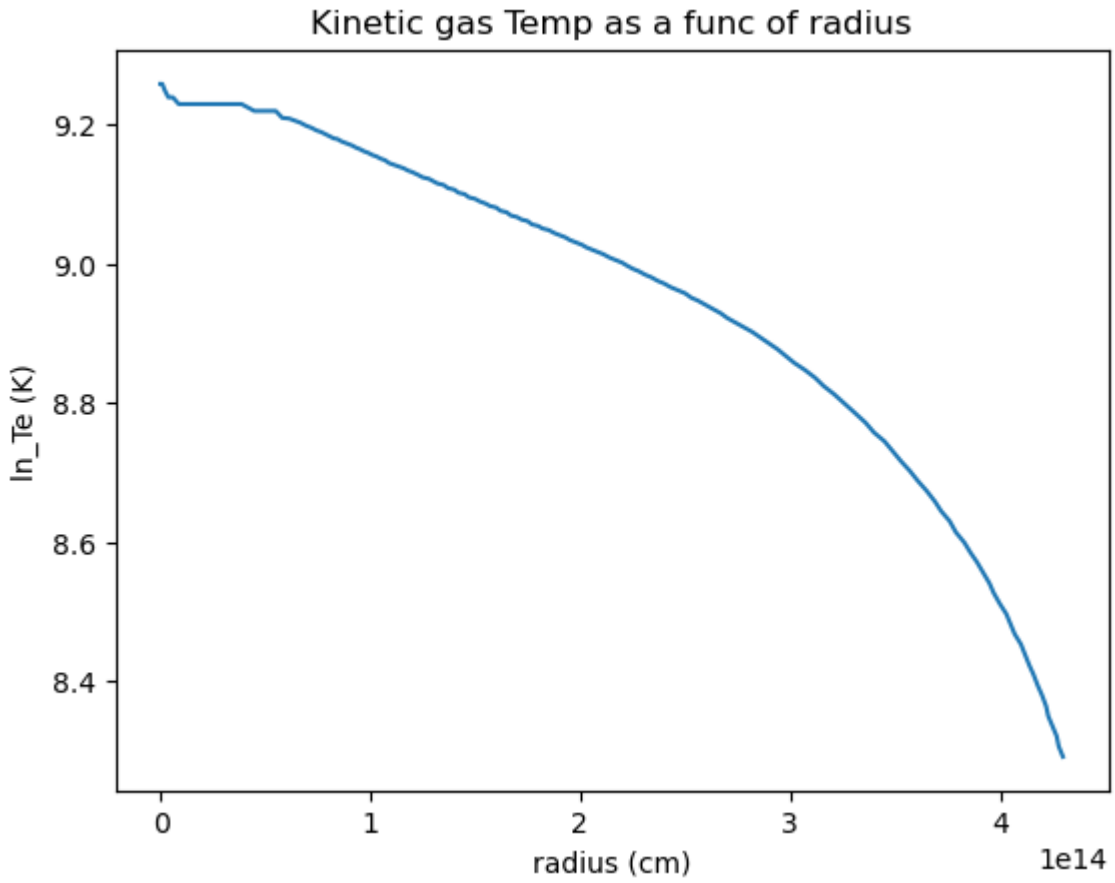
Out[2]:

	#depth	Te	Htot	hden	eden	2H_2/H	HI	HII	HeI	He
0	8.640000e+09	10500.0	4.090000e-14	100000.0	96400.0	2.780000e-10	0.137	0.863	0.102	0.8
1	5.180000e+10	10500.0	4.070000e-14	100000.0	96000.0	2.760000e-10	0.136	0.864	0.101	0.8
2	2.250000e+11	10500.0	4.040000e-14	100000.0	96000.0	2.760000e-10	0.136	0.864	0.102	0.8
3	9.160000e+11	10500.0	3.980000e-14	100000.0	96000.0	2.770000e-10	0.135	0.865	0.102	0.8
4	2.190000e+12	10400.0	3.780000e-14	100000.0	96600.0	2.670000e-10	0.128	0.872	0.103	0.8

5 rows × 26 columns

In [3]:
```
df['ln_Te'] = np.log(df['Te'])
```

In [4]:
```
plt.plot(df['#depth'], df['ln_Te'])
plt.xlabel('radius (cm)')
plt.ylabel('ln_Te (K)')
plt.title('Kinetic gas Temp as a func of radius')
plt.show()
```



In [5]:
```
df2 = pd.read_csv('cloudy_script2_con.csv')
df2
```

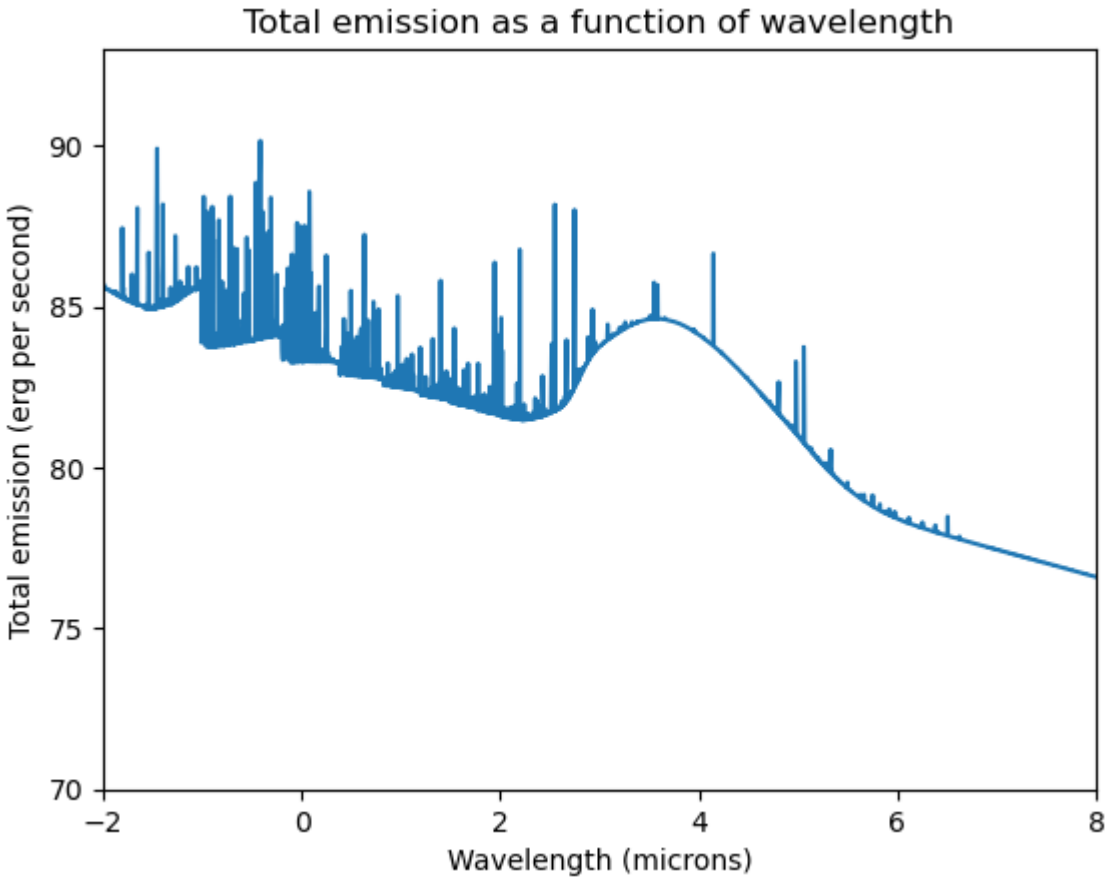
Out[5]:

	cont	incident	trans	DiffOut	net trans	reflc	total	re
0	2.990000e+07	1.710000e+12	0.0	3.110000e+26	3.110000e+26	0.0	3.110000e+26	
1	2.980000e+07	1.730000e+12	0.0	3.140000e+26	3.140000e+26	0.0	3.140000e+26	
2	2.970000e+07	1.750000e+12	0.0	3.180000e+26	3.180000e+26	0.0	3.180000e+26	
3	2.960000e+07	1.760000e+12	0.0	3.210000e+26	3.210000e+26	0.0	3.210000e+26	
4	2.950000e+07	1.780000e+12	0.0	3.250000e+26	3.250000e+26	0.0	3.250000e+26	
...	...	...	...	...	...	...	...	
9239	1.460000e-08	0.000000e+00	0.0	0.000000e+00	0.000000e+00	0.0	0.000000e+00	
9240	1.420000e-08	0.000000e+00	0.0	0.000000e+00	0.000000e+00	0.0	0.000000e+00	
9241	1.380000e-08	0.000000e+00	0.0	0.000000e+00	0.000000e+00	0.0	0.000000e+00	
9242	1.340000e-08	0.000000e+00	0.0	0.000000e+00	0.000000e+00	0.0	0.000000e+00	
9243	1.300000e-08	0.000000e+00	0.0	0.000000e+00	0.000000e+00	0.0	0.000000e+00	

9244 rows × 12 columns

In [6]:
```
df2['ln_cont'] = np.log(df2['cont'])
df2['ln_total'] = np.log(df2['total'])
```

In [7]:
```
plt.plot(df2['ln_cont'], df2['ln_total'])
plt.xlabel('Wavelength (microns)')
plt.ylabel('Total emission (erg per second)')
plt.xlim(-2,8)
plt.ylim(70,93)
plt.title('Total emission as a function of wavelength')
plt.show()
```



In [ ]:
```
```