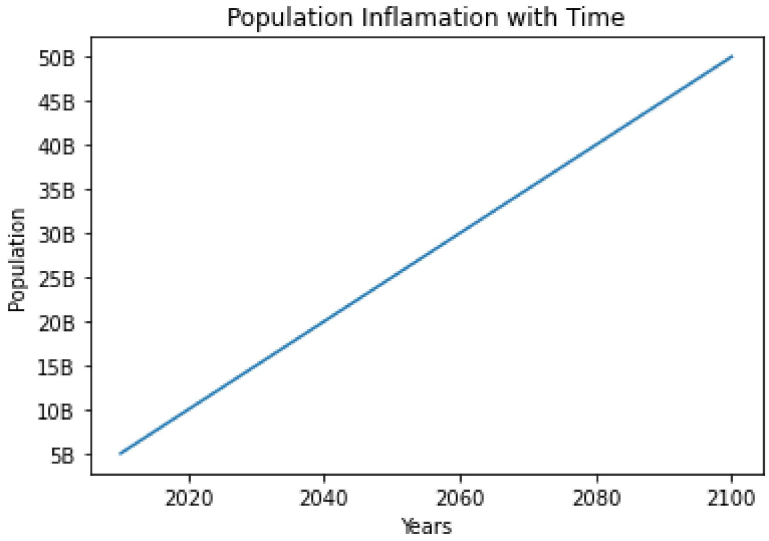
In [18]:

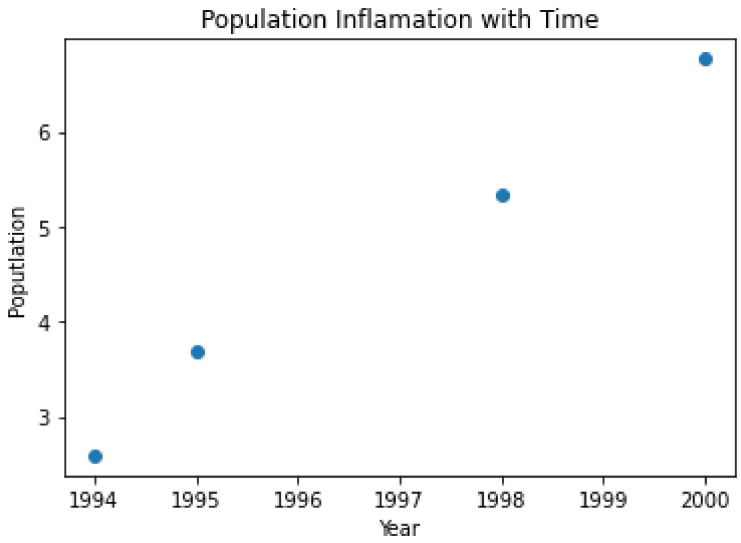
```
#Q1
import matplotlib.pyplot as plt
year= [2010, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2090, 2100]
pop = ["5B", "10B", "15B", "20B", "25B", "30B", "35B", "40B", "45B", "50B"]
plt.title("Population Inflamation with Time")
plt.xlabel("Years")
plt.ylabel("Population")
plt.plot(year, pop)
plt.show()
print("Population of World in Year:", year[-1],"will be", pop[-1],"(Billion)
```




```
Population of World in Year: 2100 will be 50B (Billion)
```

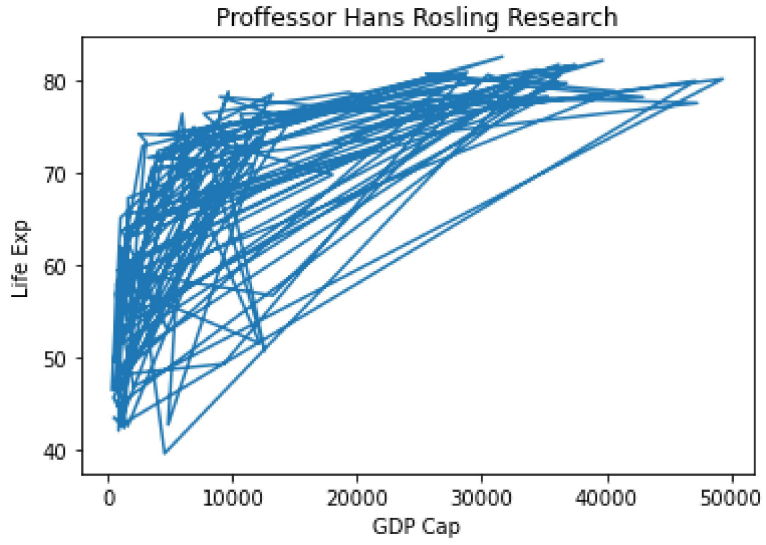
In [2]:

```
#Q2
year= [1994,1995,1998,2000]
pop=[2.59,3.69,5.33,6.77]
plt.xlabel("Year")
plt.ylabel("Poputlation")
plt.title("Population Inflamation with Time")
plt.scatter(year,pop)
plt.show()

```



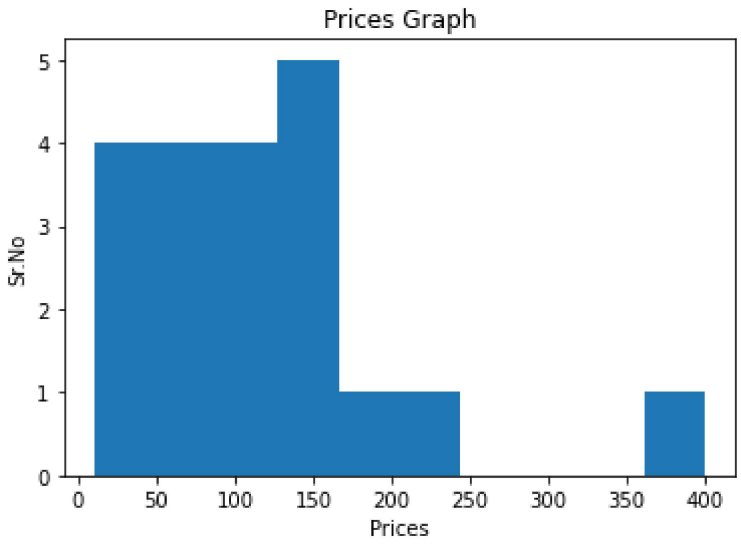
In [3]:
```
#Q3
import matplotlib.pyplot as plt
import pandas as pd
df=pd.read_csv('http://assets.datacamp.com/course/intermediate_python/gapmin
print(df)
gdp_cap = list(df.gdp_cap)
life_exp = list(df.life_exp)

print("Last Item GDP (Zimbabwe):", gdp_cap[-1], "Last Item Life_Exp (Zimbabw

plt.xlabel("GDP Cap")
plt.ylabel("Life Exp")
plt.title("Proffessor Hans Rosling Research")
plt.plot(gdp_cap, life_exp)
plt.show()
plt.clf()

```

```
                country  year  population      cont  life_exp       gdp_cap
11          Afghanistan  2007  31889923.0      Asia    43.828    974.580338
23              Albania  2007   3600523.0    Europe    76.423   5937.029526
35              Algeria  2007  33333216.0    Africa    72.301   6223.367465
47               Angola  2007  12420476.0    Africa    42.731   4797.231267
59            Argentina  2007  40301927.0  Americas    75.320  12779.379640
...                 ...   ...         ...       ...       ...           ...
1655            Vietnam  2007  85262356.0      Asia    74.249   2441.576404
1667  West Bank and Gaza  2007   4018332.0      Asia    73.422   3025.349798
1679        Yemen, Rep.  2007  22211743.0      Asia    62.698   2280.769906
1691             Zambia  2007  11746035.0    Africa    42.384   1271.211593
1703           Zimbabwe  2007  12311143.0    Africa    43.487    469.709298

[142 rows x 6 columns]
Last Item GDP (Zimbabwe): 469.70929810000007 Last Item Life_Exp (Zimbabwe): 43.
487
```

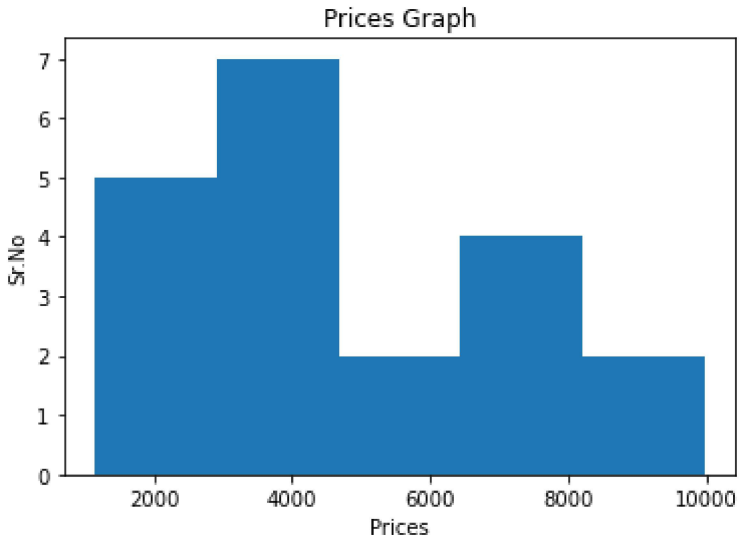


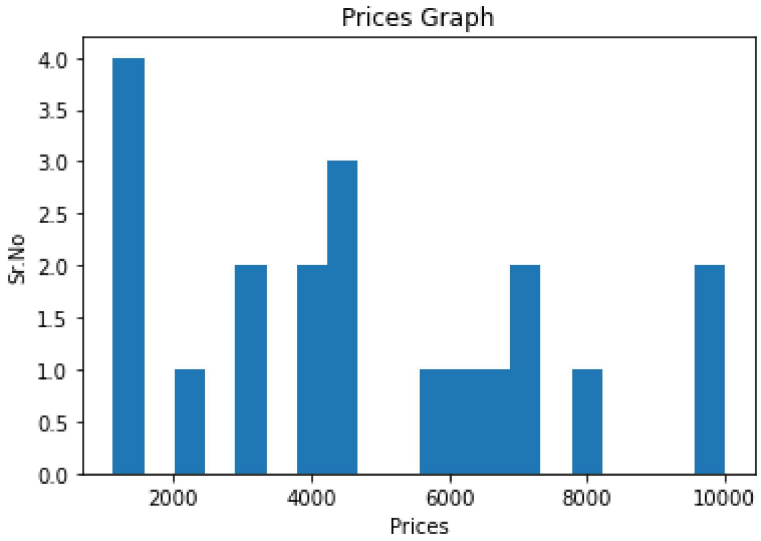

```
<Figure size 432x288 with 0 Axes>
```

In [4]:
```
#Q4
import matplotlib.pyplot as plt
prices = [15, 170, 80, 90, 140, 160, 115, 117, 10, 140, 155, 150, 45, 70, 55
plt.title('Prices Graph')
plt.xlabel("Prices")
plt.ylabel("Sr.No")
plt.hist(prices)
plt.show()
```



In [5]:
```
#Q5
import matplotlib.pyplot as plt
prices = [1567, 7170, 7780, 9990, 4140, 1360, 3115, 1127, 6610, 1340, 3155,
          7099, 5885, 9989, 4353, 4221, 2400, 4521]
plt.title('Prices Graph')
plt.xlabel("Prices")
plt.ylabel("Sr.No")
plt.hist(prices, bins=5)
plt.show()

plt.title('Prices Graph')
plt.xlabel("Prices")
plt.ylabel("Sr.No")
plt.hist(prices, bins=20)
plt.show()

print("Second Histogroam is better and Observational")
```

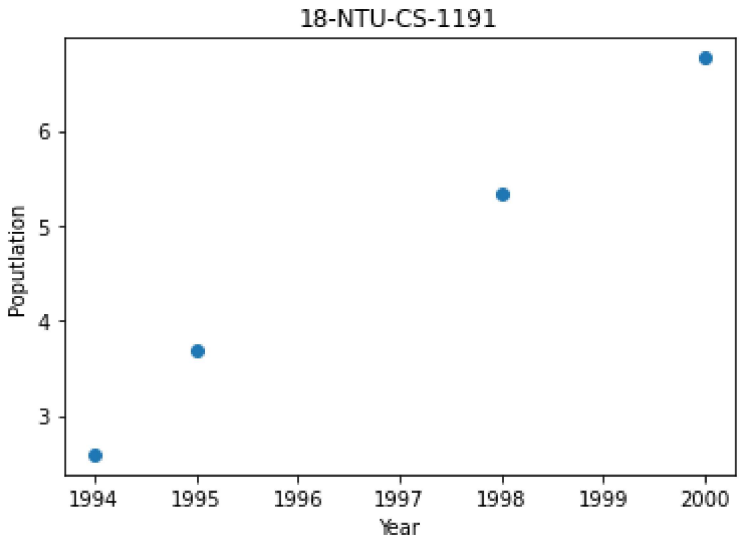





```
Second Histogroam is better and Observational
```

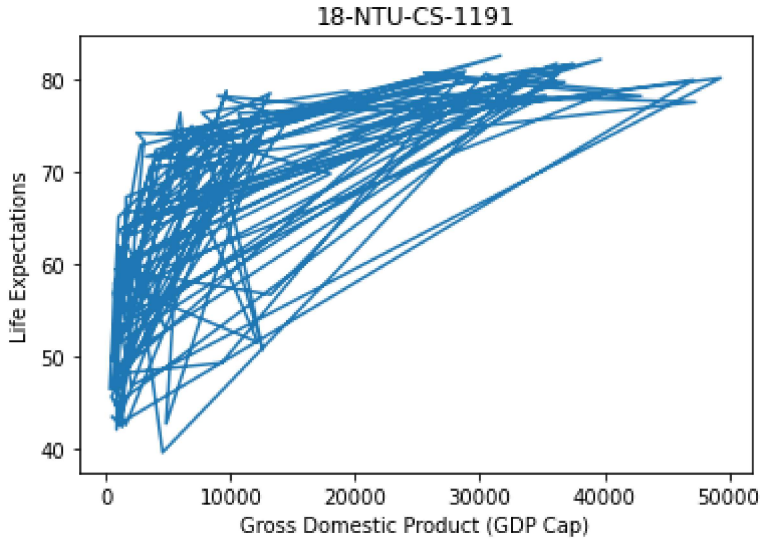
In [6]:

```
#Q6
year= [1994,1995,1998,2000]
pop=[2.59,3.69,5.33,6.77]
plt.xlabel("Year")
plt.ylabel("Poputlation")
plt.title("18-NTU-CS-1191")
plt.scatter(year,pop)
plt.show()

import matplotlib.pyplot as plt
import pandas as pd
df=pd.read_csv('http://assets.datacamp.com/course/intermediate_python/gapmin
print(df)
gdp_cap = list(df.gdp_cap)
life_exp = list(df.life_exp)

print("Last Item GDP (Zimbabwe):", gdp_cap[-1], "Last Item Life_Exp (Zimbabw

plt.xlabel("Gross Domestic Product (GDP Cap)")
plt.ylabel("Life Expectations")
plt.title("18-NTU-CS-1191")
plt.plot(gdp_cap, life_exp)
plt.show()
plt.clf()


```



	country	year	population	cont	life_exp	gdp_cap
11	Afghanistan	2007	31889923.0	Asia	43.828	974.580338
23	Albania	2007	3600523.0	Europe	76.423	5937.029526
35	Algeria	2007	33333216.0	Africa	72.301	6223.367465
47	Angola	2007	12420476.0	Africa	42.731	4797.231267
59	Argentina	2007	40301927.0	Americas	75.320	12779.379640
...	...	...	...	...	...	...
1655	Vietnam	2007	85262356.0	Asia	74.249	2441.576404
1667	West Bank and Gaza	2007	4018332.0	Asia	73.422	3025.349798

```
1679          Yemen, Rep.  2007  22211743.0      Asia    62.698   2280.769906
1691               Zambia  2007  11746035.0    Africa    42.384   1271.211593
1703             Zimbabwe  2007  12311143.0    Africa    43.487    469.709298

[142 rows x 6 columns]
Last Item GDP (Zimbabwe): 469.70929810000007 Last Item Life_Exp (Zimbabwe): 43.
487
```




```
<Figure size 432x288 with 0 Axes>
```

In [7]:

```
#Q7
room="kit"
area=16
if room == 'kit':
    print("Looking around in the kitchen.")
if area > 15:
    print("big place!")
```

```
Looking around in the kitchen.
big place!
```

In [8]:

```
#Q8(A)
room="kite"

if room == 'kit':
    print("Looking around in the kitchen.")
else:
    print("looking around elsewhere.")

```

```
looking around elsewhere.
```

In [9]:
```
#Q8(B)
area=14
if area > 15 :
    print("big place!")
else:
    print("pretty small")
```

```
pretty small
```

In [10]:
```
#Q9
room = 'bed'
if room == "kit" :
    print("looking around in the kitchen.")
elif room == "bed":
    print("looking around in the bedroom.")
else :
    print("looking around elsewhere.")


```

```
looking around in the bedroom.
```

In [11]:
```
#Q9(B)
area = 14
if area > 15 :
    print("big place!")
elif area > 10:
    print("medium size, nice!")
else :
    print("pretty small.")

```

```
medium size, nice!
```

In [12]:
```
#Q10
import pandas as pd
dataset = pd.read_csv("cars.csv")
cars=pd.DataFrame(dataset)
print(cars)
```

```
  Unnamed: 0  cars_per_cap        country  drives_right
0         US           809  United States          True
1        AUS           731      Australia         False
2        JAP           588          Japan         False
3         IN            18          India         False
4         RU           200         Russia          True
5        MOR            70        Morocco          True
6         EG            45          Egypt          True
```

In [13]:
```
#Q11
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars=pd.DataFrame(dataset)
print(cars)
```

```
     cars_per_cap        country  drives_right
US            809  United States          True
AUS           731      Australia         False
JAP           588          Japan         False
IN             18          India         False
RU            200         Russia          True
MOR            70        Morocco          True
EG             45          Egypt          True
```

In [14]:
```
#Q12(A)
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars=pd.DataFrame(dataset)
cars['cars_per_cap']

```

Out[14]:
```
US     809
AUS    731
JAP    588
IN      18
RU     200
MOR     70
EG      45
Name: cars_per_cap, dtype: int64
```

In [17]:
```
#Q12(B)
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars=pd.DataFrame(dataset)
cars[['cars_per_cap']]
```

Out[17]:

	cars_per_cap
US	809
AUS	731
JAP	588
IN	18
RU	200
MOR	70
EG	45

In [19]:
```
#Q13(A)
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars=pd.DataFrame(dataset)
cars.loc['RU']
cars.loc[['RU']]
cars.loc[['RU', 'AUS']]

```

Out[19]:

	cars_per_cap	country	drives_right
RU	200	Russia	True
AUS	731	Australia	False

In [20]:
```
#Q13(B)
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars=pd.DataFrame(dataset)
cars.loc['JAP']
cars.loc[['JAP']]
```

Out[20]:

	cars_per_cap	country	drives_right
JAP	588	Japan	False

In [21]:
```
#Q13(C)
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars=pd.DataFrame(dataset)
cars.loc[['AUS', 'EG']]

```

Out[21]:

	cars_per_cap	country	drives_right
AUS	731	Australia	False
EG	45	Egypt	True

In [22]:
```
#Q14(A)
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars.loc['IN', 'cars_per_cap']
cars.loc[['IN', 'RU'], 'cars_per_cap']
cars.loc[['IN', 'RU'], ['cars_per_cap', 'country']]


```

Out[22]:

	cars_per_cap	country
IN	18	India
RU	200	Russia

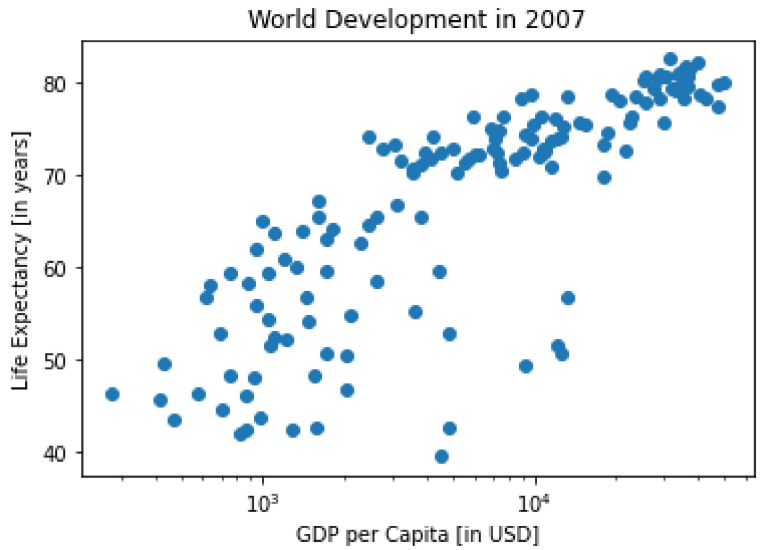
In [23]:
```
#Q14(B)
import pandas as pd
dataset = pd.read_csv("cars.csv", index_col = 0)
cars.loc['MOR', 'drives_right']
cars.loc[['RU', 'MOR'], ['country', 'drives_right']]

```

Out[23]:

	country	drives_right
RU	Russia	True
MOR	Morocco	True

In [24]:
```
#Q15
import matplotlib.pyplot as plt
import importlib
importlib.reload(plt)
import pandas as pd
plt.clf()

df = pd.read_csv('http://assets.datacamp.com/course/intermediate_python/gapm
gdp_cap = list(df.gdp_cap)
life_exp = list(df.life_exp)
# Basic scatter plot, log scale
plt.scatter(gdp_cap, life_exp)
plt.xscale('log')

# Strings
plt.xlabel('GDP per Capita [in USD]')
plt.ylabel('Life Expectancy [in years]')
plt.title('World Development in 2007')

```

Out[24]: Text(0.5, 1.0, 'World Development in 2007')



In [ ]:
```
1
```

In [ ]:
```
1
```