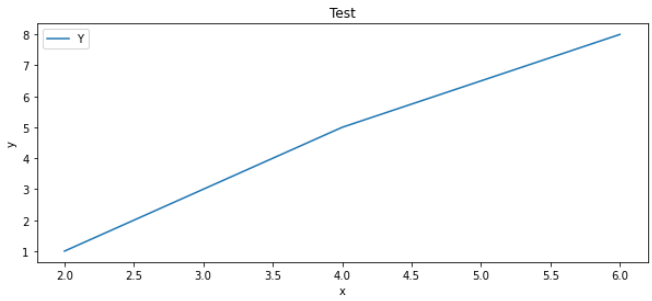
In [1]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
```

In [2]:
```
x = [2, 4, 6]
y = [1, 5, 8]
plt.figure(figsize=(10, 4))
plt.plot(x, y)
plt.title("Test")
plt.xlabel("x")
plt.ylabel("y")
plt.legend(["Y"])
plt.show()
```



In [3]:
```
sample_data = pd.read_csv('data\sample_data.csv')
```

In [4]:
```
sample_data
```

Out[4]:

	column_a	column_b	column_c
0	1	1	10
1	2	4	8
2	3	9	6
3	4	16	4
4	5	25	2

In [5]:
```
data = pd.read_csv('data\countries.csv')
```

In [6]:
```
data
```

Out[6]:

	country	year	population
0	Afghanistan	1952	8425333
1	Afghanistan	1957	9240934
2	Afghanistan	1962	10267083
3	Afghanistan	1967	11537966
4	Afghanistan	1972	13079460
...	...	...	...
1699	Zimbabwe	1987	9216418
1700	Zimbabwe	1992	10704340
1701	Zimbabwe	1997	11404948
1702	Zimbabwe	2002	11926563
1703	Zimbabwe	2007	12311143

1704 rows × 3 columns

In [7]:
```
Angola = data[data.country == 'Angola']
```

In [8]:
```
Angola
```

Out[8]:

	country	year	population
36	Angola	1952	4232095
37	Angola	1957	4561361
38	Angola	1962	4826015
39	Angola	1967	5247469
40	Angola	1972	5894858
41	Angola	1977	6162675
42	Angola	1982	7016384
43	Angola	1987	7874230
44	Angola	1992	8735988
45	Angola	1997	9875024
46	Angola	2002	10866106
47	Angola	2007	12420476

In [9]:
```
Chad = data[data.country == 'Chad']
```

In [10]:
```
Chad
```

Out[10]:

	country	year	population
264	Chad	1952	2682462
265	Chad	1957	2894855
266	Chad	1962	3150417
267	Chad	1967	3495967
268	Chad	1972	3899068
269	Chad	1977	4388260
270	Chad	1982	4875118
271	Chad	1987	5498955
272	Chad	1992	6429417
273	Chad	1997	7562011
274	Chad	2002	8835739

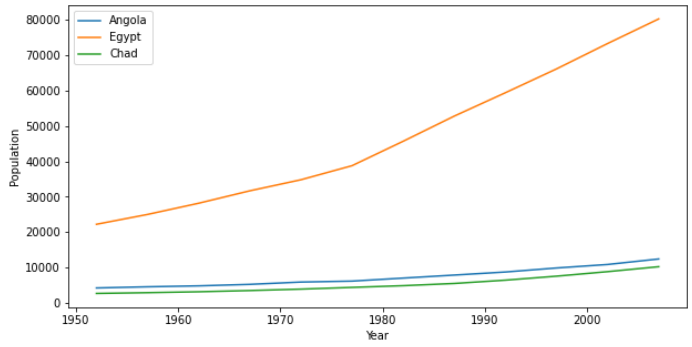
In [11]:
```
Egypt = data[data.country == 'Egypt']
```

In [12]:
```
Egypt
```

Out[12]:

	country	year	population
456	Egypt	1952	22223309
457	Egypt	1957	25009741
458	Egypt	1962	28173309
459	Egypt	1967	31681188
460	Egypt	1972	34807417
461	Egypt	1977	38783863
462	Egypt	1982	45681811
463	Egypt	1987	52799062
464	Egypt	1992	59402198
465	Egypt	1997	66134291
466	Egypt	2002	73312559
467	Egypt	2007	80264543

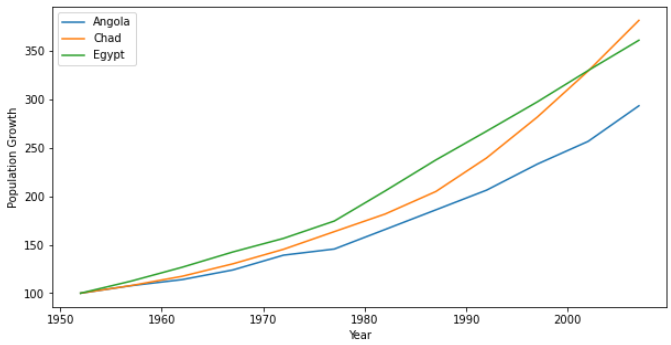
In [13]:
```
plt.figure(figsize=(10, 5))
plt.plot(Angola.year, Angola.population / 10**3)
plt.plot(Egypt.year, Egypt.population / 10**3)
plt.plot(Chad.year, Chad.population / 10**3)
plt.legend(['Angola', 'Egypt','Chad'])
plt.xlabel('Year')
plt.ylabel('Population')
plt.show()
```



In [15]:
```
Egypt.population
```

Out[15]:
```
456    22223309
457    25009741
458    28173309
459    31681188
460    34807417
461    38783863
462    45681811
463    52799062
464    59402198
465    66134291
466    73312559
467    80264543
Name: population, dtype: int64
```

In [20]:
```
plt.figure(figsize=(10, 5))
plt.plot(Angola.year, Angola.population / Angola.population.iloc[0] * 100)
plt.plot(Chad.year, Chad.population / Chad.population.iloc[0] * 100)
plt.plot(Egypt.year, Egypt.population / Egypt.population.iloc[0] * 100)
plt.legend(['Angola', 'Chad','Egypt'])
plt.xlabel('Year')
plt.ylabel('Population Growth')
plt.show()
```



In [39]:
```
data = pd.read_csv('data\eth-price.csv')
```

In [40]:
```
data
```

Out[40]:

	Date(UTC)	UnixTimeStamp	Value
0	4/2/2017	1491091200	48.55
1	4/3/2017	1491177600	44.13
2	4/4/2017	1491264000	44.43
3	4/5/2017	1491350400	44.90
4	4/6/2017	1491436800	43.23
...	...	...	...
357	3/28/2018	1522195200	445.93
358	3/29/2018	1522281600	383.90
359	3/30/2018	1522368000	393.82
360	3/31/2018	1522454400	394.07
361	4/1/2018	1522540800	378.85

362 rows × 3 columns

In [50]:
```
Data0 = data[data.Value <= 100.00]
```

In [51]:
```
Data0
```

Out[51]:

	Date(UTC)	UnixTimeStamp	Value
0	4/2/2017	1491091200	48.55
1	4/3/2017	1491177600	44.13
2	4/4/2017	1491264000	44.43
3	4/5/2017	1491350400	44.90
4	4/6/2017	1491436800	43.23
5	4/7/2017	1491523200	42.31
6	4/8/2017	1491609600	44.37
7	4/9/2017	1491696000	43.72
8	4/10/2017	1491782400	43.74
9	4/11/2017	1491868800	43.74
10	4/12/2017	1491955200	46.38
11	4/13/2017	1492041600	49.97
12	4/14/2017	1492128000	47.32
13	4/15/2017	1492214400	48.89
14	4/16/2017	1492300800	48.22
15	4/17/2017	1492387200	47.94
16	4/18/2017	1492473600	49.88
17	4/19/2017	1492560000	47.88
18	4/20/2017	1492646400	49.36
19	4/21/2017	1492732800	48.27
20	4/22/2017	1492819200	48.41
21	4/23/2017	1492905600	48.75
22	4/24/2017	1492992000	49.94
23	4/25/2017	1493078400	50.09
24	4/26/2017	1493164800	53.28
25	4/27/2017	1493251200	63.14
26	4/28/2017	1493337600	72.42

In [58]:
```
Data1 = data[ data.Value >= 100.00 ]
```

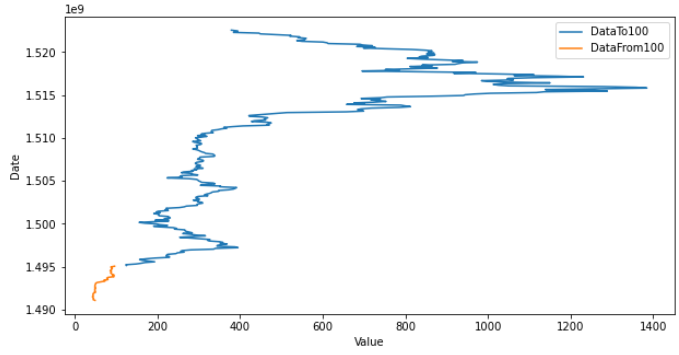
In [53]:
```
Data1
```

Out[53]:

	Date(UTC)	UnixTimeStamp	Value
0	4/2/2017	1491091200	48.55
1	4/3/2017	1491177600	44.13
2	4/4/2017	1491264000	44.43
3	4/5/2017	1491350400	44.90
4	4/6/2017	1491436800	43.23
...	...	...	...
105	7/16/2017	1500163200	155.42
106	7/17/2017	1500249600	189.97
108	7/19/2017	1500422400	194.41
117	7/28/2017	1501200000	191.21
119	7/30/2017	1501372800	196.78

66 rows × 3 columns

In [63]:
```
plt.figure(figsize=(10, 5))
plt.plot(Data1.Value,Data1.UnixTimeStamp)
plt.plot(Data0.Value,Data0.UnixTimeStamp)
plt.legend(['DataTo100', 'DataFrom100'])
plt.xlabel('Value')
plt.ylabel('Date')
plt.show()
```



In [ ]:
```
```