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

In [2]:
```
csv_in = 'corona-data.csv'
df = pd.read_csv(csv_in, sep=',', skiprows=0, header=0)
df.info()
df.head()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 351 entries, 0 to 350
Data columns (total 2 columns):
 #   Column          Non-Null Count  Dtype 
---  ------          --------------  ----- 
 0   date            351 non-null    object
 1   positive_cases  351 non-null    int64 
dtypes: int64(1), object(1)
memory usage: 5.6+ KB
```

Out[2]:

	date	positive_cases
0	2020/1/16	1
1	2020/1/17	0
2	2020/1/18	0
3	2020/1/19	0
4	2020/1/20	0

In [3]:
```
df['date'] = pd.to_datetime(df['date']) #1
print(df.info())
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 351 entries, 0 to 350
Data columns (total 2 columns):
 #   Column          Non-Null Count  Dtype         
---  ------          --------------  -----         
 0   date            351 non-null    datetime64[ns]
 1   positive_cases  351 non-null    int64         
dtypes: datetime64[ns](1), int64(1)
memory usage: 5.6 KB
None
```

In [4]:
```
df = df.set_index('date') #2
display(df.head())
```

date	positive_cases
2020-01-16	1
2020-01-17	0
2020-01-18	0
2020-01-19	0
2020-01-20	0

In [5]:
```
df_week = df.resample('W').mean() #3
display(df_week.head())
display(df_week.tail())
```

date	positive_cases
2020-01-19	0.250000
2020-01-26	0.428571
2020-02-02	1.142857
2020-02-09	0.428571
2020-02-16	2.142857

date	positive_cases
2020-12-06	2186.285714
2020-12-13	2516.428571
2020-12-20	2649.571429
2020-12-27	3158.571429
2021-01-03	3597.500000

In [6]:
```
#print(df_week.loc['2020-12-27'].astype(int)) #4
print(round(df_week.loc['2020-12-27'], 1)) #4
```

```
positive_cases    3158.6
Name: 2020-12-27 00:00:00, dtype: float64
```

Ans (4)

3158.6

In [7]:
```
df['day_of_week'] = df.index.dayofweek #5
display(df.head())
```

date	positive_cases	day_of_week
2020-01-16	1	3
2020-01-17	0	4
2020-01-18	0	5
2020-01-19	0	6
2020-01-20	0	0

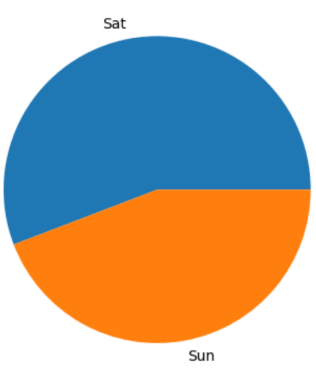
In [8]:
```
df_wday_ave = df.groupby('day_of_week').mean() #6
display(df_wday_ave)
```

day_of_week	positive_cases
0	431.180000
1	613.980000
2	723.520000
3	807.607843
4	738.060000
5	754.440000
6	597.240000

In [9]:
```
print(df_wday_ave.at[0, 'positive_cases']) #7
```

```
431.18
```

In [10]:
```
wday_list = ['Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun']
weekend = wday_list[-2:]
plt.pie(df_wday_ave['positive_cases'][-2:], labels=weekend) #8
plt.show()
```



In [ ]: