```
import numpy as np
```

Loading data

```
date=data['f0']
step_count=data['f1']
mood=data['f2']
calories_burned=data['f3']
hours_of_sleep=data['f4']
active=data['f5']
```

```
data = np.genfromtxt('fit.csv', delimiter=',', dtype=None, encoding=None)
print(data)
```

Visualizing Data

Seperating coloumns

mood

```
array(['Neutral', 'Sad', 'Sad', 'Sad', 'Neutral', 'Sad', 'Sad', 'Sad',
       'Sad', 'Sad', 'Sad', 'Sad', 'Happy', 'Sad', 'Sad', 'Sad', 'Sad',
       'Neutral', 'Neutral', 'Neutral', 'Neutral', 'Neutral', 'Neutral',
       'Happy', 'Neutral', 'Happy', 'Happy', 'Happy', 'Happy', 'Happy',
       'Happy', 'Happy', 'Neutral', 'Happy', 'Happy', 'Happy', 'Happy',
       'Happy', 'Happy', 'Happy', 'Happy', 'Happy', 'Happy', 'Neutral',
       'Happy', 'Happy', 'Happy', 'Happy', 'Happy', 'Happy', 'Happy',
       'Happy', 'Happy', 'Neutral', 'Sad', 'Happy', 'Happy', 'Happy',
       'Happy', 'Happy', 'Happy', 'Happy', 'Sad', 'Neutral', 'Neutral',
       'Sad', 'Sad', 'Neutral', 'Neutral', 'Happy', 'Neutral', 'Neutral',
       'Sad', 'Neutral', 'Sad', 'Neutral', 'Neutral', 'Sad', 'Sad', 'Sad',
       'Sad', 'Happy', 'Neutral', 'Happy', 'Neutral', 'Sad', 'Sad', 'Sad',
       'Neutral', 'Neutral', 'Sad', 'Sad', 'Happy', 'Neutral', 'Neutral',
       'Happy'], dtype='<U7')
```

calories_burned

```
array([181, 197,   0, 174, 223, 149, 140,  38,   1,  40, 101, 152, 150,
       113,  49,  86,   6,  99, 143, 125, 129,   6,   9,  10,  72, 150,
       141, 156,  57,  72,  17, 181, 197, 131, 154, 137, 193,  19, 101,
       139, 164, 137,  22,  17,   9, 145, 192, 146, 234, 167,  16,  17,
        32,  35, 220, 116,  23,  44, 131,  86, 194,  60, 121,  76,  93,
        53,  25, 227, 125, 243,  14,  39,  55, 158,   7, 213, 116, 129,
        21,  28,  16, 180, 138, 176,  99,   5,   1,  10,  47,  84,  23,
         4,   0,   0,   0,   0])
```

hours_of_sleep

```
array([5, 8, 5, 4, 5, 6, 6, 7, 5, 6, 8, 5, 6, 7, 5, 6, 8, 5, 4, 5, 6, 8,
       5, 6, 5, 8, 5, 4, 5, 4, 5, 4, 3, 2, 9, 5, 6, 4, 5, 8, 4, 5, 6, 5,
       6, 5, 6, 5, 6, 5, 6, 7, 6, 7, 6, 5, 6, 7, 8, 8, 7, 8, 5, 4, 3, 3,
       4, 5, 5, 5, 3, 4, 4, 5, 5, 5, 5, 5, 5, 4, 3, 4, 5, 5, 4, 5, 3, 3,
       3, 2, 3, 2, 8, 5, 5, 5])
```

active

```
array(['Inactive', 'Inactive', 'Inactive', 'Inactive', 'Active',
       'Inactive', 'Inactive', 'Inactive', 'Inactive', 'Inactive',
       'Inactive', 'Inactive', 'Active', 'Inactive', 'Inactive',
       'Inactive', 'Inactive', 'Inactive', 'Inactive', 'Inactive',
       'Inactive', 'Inactive', 'Inactive', 'Inactive', 'Inactive',
       'Active', 'Inactive', 'Inactive', 'Inactive', 'Inactive', 'Active',
       'Inactive', 'Inactive', 'Inactive', 'Inactive', 'Inactive',
       'Active', 'Active', 'Active', 'Active', 'Active', 'Active',
       'Active', 'Active', 'Active', 'Inactive', 'Inactive', 'Inactive',
       'Inactive', 'Inactive', 'Inactive', 'Active', 'Active', 'Active',
       'Active', 'Active', 'Active', 'Active', 'Active', 'Active',
       'Active', 'Active', 'Active', 'Inactive', 'Active', 'Active',
       'Inactive', 'Active', 'Active', 'Active', 'Active', 'Active',
       'Inactive', 'Active', 'Active', 'Active', 'Active', 'Inactive',
       'Inactive', 'Inactive', 'Inactive', 'Active', 'Active', 'Active',
       'Active', 'Inactive', 'Inactive', 'Inactive', 'Inactive',
```

```
'Inactive', 'Inactive', 'Inactive', 'Inactive', 'Active',
'Inactive', 'Active'], dtype='<U8')
```

What is the average step count across the dataset?

```
avg_step_count=np.average(step_count)
avg_step_count
```

```
2935.9375
```

On which date did the person burn the most calories, and what was their mood on that day?

```
max_calories_index=np.argmax(calories_burned)
print('date,    step_count,     mood,   calories_burned,   hours_of_sleep,     active \n',data[max_calories_index])
```

```
date,    step_count,     mood,   calories_burned,   hours_of_sleep,     active
 ('14-12-2017', 7422, 'Happy', 243, 5, 'Active')
```

How many days does the dataset show the person being "Active" vs. "Inactive"?

```
active_days=np.sum(active == 'Active')
print(f'Number of Active days : {active_days}')
```

```
Number of Active days : 42
```

```
inactive_days=np.sum(active == 'Inactive')
print(f'Number of Inactive days : {inactive_days}')
```

```
Number of Inactive days : 54
```

Which mood is associated with the highest average calories burned?

```
avg_calories_sad=np.argwhere(mood=='Sad')

Sad_people=calories_burned[avg_calories_sad]
print(f'Average Sad person burnes : {np.average(Sad_people)}')
```

```
Average Sad person burnes : 67.72413793103448
```

```
avg_calories_Neutral=np.argwhere(mood=='Neutral')

Neutral_people=calories_burned[avg_calories_Neutral]
print(f'Average Neutral person burnes : {np.average(Neutral_people)}')
```

```
Average Neutral person burnes : 98.70370370370371
```

```
avg_calories_Happy=np.argwhere(mood=='Happy')

Happy_people=calories_burned[avg_calories_Happy]
print(f'Average Happy person burnes : {np.average(Happy_people)}')
```

```
Average Happy person burnes : 108.55
```

The Higest avgerage calories burned are Happy people

```
Average Happy person burnes : 108.55

Average Neutral person burnes : 98.70370370370371

Average Sad person burnes : 67.72413793103448
```