

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

Task 1:Visualization

Assumption:

Only the individual's thought about their happiness is considered to be legit. Others people assesment should not be considered in case of happiness.

Objective:

To find out what makes someone fulfilled: We must find out whether:

- 1. his/her boss treating him/her right?
- 2. he/she treating her right?
- 3. does he/she consider himself/herself fulfilled



```
df=pd.read_excel('Copy of Behavioural Data Science Assignment.xlsx',sheet_name='Sheet9')
df.drop(columns=['Unnamed: 1','Unnamed: 2'],inplace=True)
df.head()
```

Parameters		Neha	Amit	Sachin
0	Q1 How would you grade yourself in terms of th...	10	8	6
1	Q1 On a scale of 1-10, how much is the above p...	10	8	8
2	Q2 How much effort do you put in "learning and...	9	7	4
3	Q2 On a scale of 1-10, compared to the other p...	9	8	8
4	Q3 Beyond your core domain, what are the effor...	9	8	7

```
df['Parameters']
```

```

0   Q1 How would you grade yourself in terms of th...
1   Q1 On a scale of 1-10, how much is the above p...
2   Q2 How much effort do you put in "learning and...
3   Q2 On a scale of 1-10, compared to the other p...
4   Q3 Beyond your core domain, what are the effor...
5   Q3 On a scale of 1-10, compared to the other p...
6   Q4 What are the efforts have you given to impr...
7   Q4 On a scale of 1-10, compared to the other p...
8   Q5 How much efforts have you given in order to...
9   Q5 On a scale of 1-10, compared to the other p...
Name: Parameters, dtype: object

```

```
#Renaming the column entries to better understand the data
```

```

param=['Efforts given','importance_effort','effort_learning_development_of_core_tech_skills','importance_effort_learning_development_of_core_
','effort_in_other_domain','importance_effort_in_other_domain','effort_in_communication_Emotional_intelligence','importance_effort_in_
','effort_in_efficiency','importance_effort_in_efficiency']

```

```
df['Parameters']=param
```

```
df
```

	Parameters	Neha	Amit	Sachin
0	Efforts given	10	8	6
1	importance_effort	10	8	8
2	effort_learning_development_of_core_tech_skills	9	7	4
3	importance_effort_learning_development_of_core...	9	8	8
4	effort_in_other_domain	9	8	7
5	importance_effort_in_other_domain	9	8	7
6	effort_in_communication_Emotional_intelligence	9	8	7
7	importance_effort_in_communication_Emotional_i...	9	8	6
8	effort_in_efficiency	9	8	6
9	importance_effort_in_efficiency	9	8	6

```

import plotly.express as px
import pandas as pd

```

```
# Sample data
```

```

data = {
    'Parameters': df['Parameters'],
    'Neha': df['Neha'],
    'Amit': df['Amit'],
    'Sachin': df['Sachin']
}

```

```
df = pd.DataFrame(data)
```

```
# Reshape the data into long format
```

```
df_long = pd.melt(df, id_vars='Parameters', var_name='Group', value_name='Value')
```

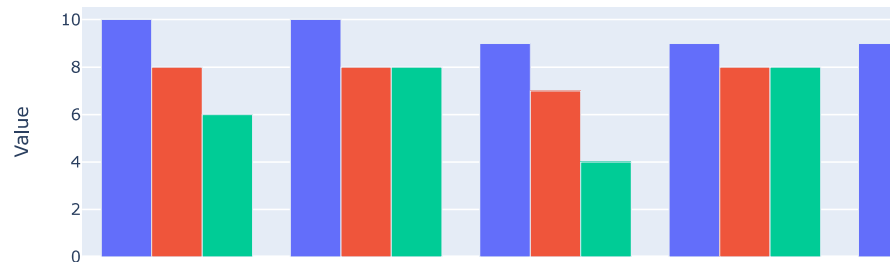
```
# Create the side-by-side bar graph
```

```
fig = px.bar(df_long, x='Parameters', y='Value', color='Group', barmode='group', title='Side-by-Side Bar Graph')
```

```
# Display the graph
```

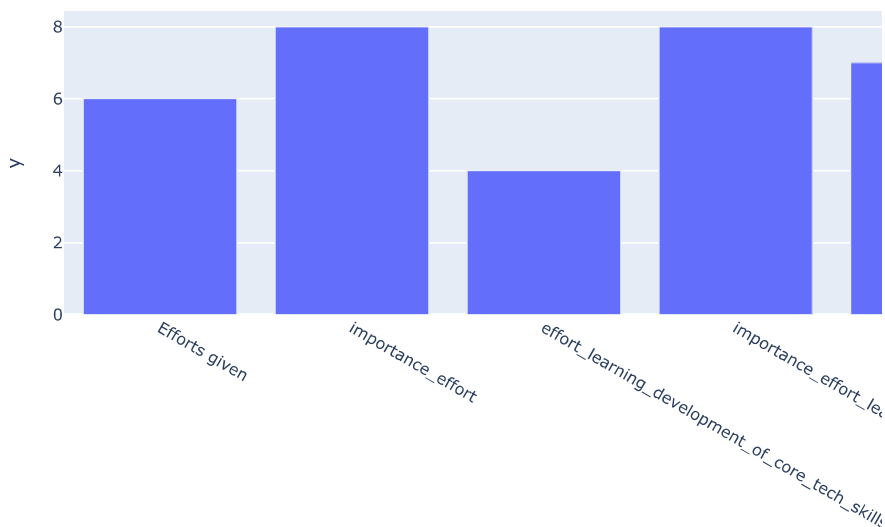
```
fig.show()
```

Side-by-Side Bar Graph



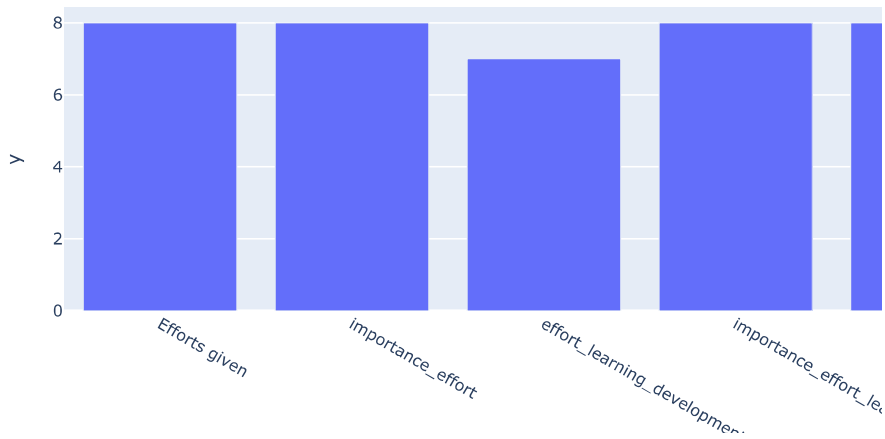
1. Here we can see a maximum amount of effort seen from Neha in comparison to Amit and Sachin
2. Amit is consistently in between Neha and Sachin

```
#Sachin
px.bar(x=df['Parameters'],y=df['Sachin'])
```



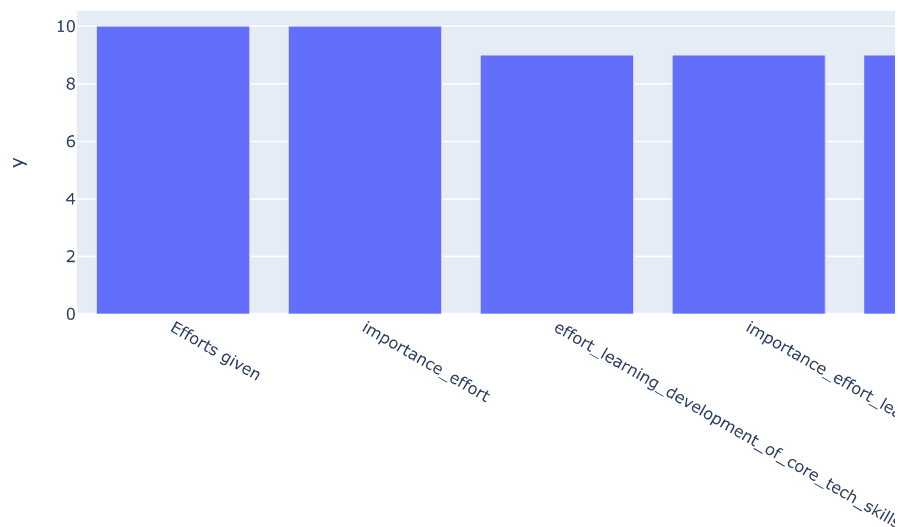
1. From the above bar graph we can see that it is important for sachin to learn the core technical skills and giving effort in his job but the effort that he is putting is not enough
2. In contrast to that he is putting effort for communication skills and emotional intelligence but it is not important to him.
 - Maybe that is the reason that makes sachin really happy
 - He might be happy due to the fact that he has found his interest in other domain(effort in other domain and importance in other domains are similar)
 - He considers himself efficient too.

```
#Amit
px.bar(x=df['Parameters'],y=df['Amit'])
```



1. A good amount of substantial effort(according to Amit) is given by him
2. Amit seems to have work life balance because he considers himself productive and in happiness index too he gave himself good score.

```
#Neha
px.bar(x=df['Parameters'],y=df['Neha'])
```



1. It seems pretty strange that Neha is putting effort in other activities and also the office work and still she rates herself as less happy.
2. Most Probably there are other factors that makes her feel less happy.

Task 2:

What questions would you ask the company, employees to understand the data better? What additional data would you require to draw better inferences out of the data?

Visualizing the data is the best impression we can clearly see hence we should get numerical data. Numerical data might have error (based on the mood of an individual)

- Ques 1: What is your hobby(An activity that doesnt exhausts you)
- Ques 2: How much time do you give to your hobby?
- Ques 3: On a scale of 1-10 tell how often do you get angry or loose your cool or loose your composure.

- Ques 4: On a scale of 1-10 rate how much your physical activity you do.(this question can also be biased but we can ask multiple questions i.e. bmi,weight,diet etc to calculate optimum physical activity time and then ask their physical activity duration)
- Ques 5: Average amount of time spent by the loved ones.
- Ques 6: On a scale of 1-10, rate how much you are satisfied by your salary

After getting the above results we would be able to get better insights about the individuals

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