

1: Visualize the daily temperature changes over time in a city and give your conclusion

```
#Input: days = list(range(1, 32))
```

```
# Daily temperature data (replace with your own data)
```

```
#temperature = [65, 68, 70, 72, 75, 76, 78, 80, 81, 79, 75, 72, 70, 68, 67, 69, 70, 73, 75, 76, 78, 80, 81, 82, 83, 82, 80, 78, 76, 74, 71]
```

```
import matplotlib.pyplot as plt
```

```
# Input data
```

```
days = list(range(1, 32))
```

```
temperature = [65, 68, 70, 72, 75, 76, 78, 80, 81, 79, 75, 72, 70, 68, 67, 69, 70, 73, 75, 76, 78, 80, 81, 82, 83, 82, 80, 78, 76, 74, 71]
```

```
plt.figure(figsize=(10, 6))
```

```
plt.plot(days, temperature, marker='o', color='b', linestyle='-') # Plotting the data
```

```
plt.title('Daily Temperature Changes')
```

```
# Adding labels and title
```

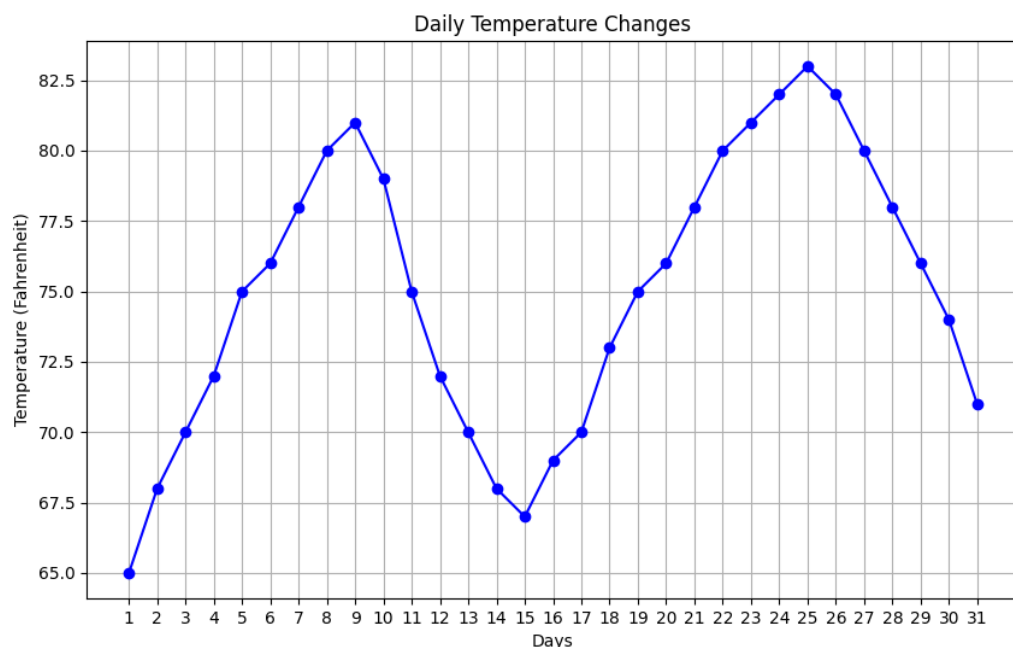
```
plt.xlabel('Days')
```

```
plt.ylabel('Temperature (Fahrenheit)')
```

```
plt.grid(True)
```

```
plt.show()
```

Output:-



2: Create a line plot to visualize the daily closing prices of a stock over a year and give your conclusion.

```
#Input: days = list(range(1, 78))
# Daily closing prices of a stock (replace with your own data)
#stock_prices = [100, 105, 110, 115, 112, 120, 118, 125, 128, 130, 132, 135, 138, 140, 142, 144, 145,
148, 150, 155, 160, 158, 162, 165, 170, 172, 175, 178, 180, 182, 185, 188, 190, 192, 195, 198, 200,
198, 195, 193, 190, 188, 185, 182, 180, 178, 175, 172, 170, 168, 165, 162, 160, 158, 155, 152, 150,
148, 145, 143, 140, 138, 135, 132, 130, 128, 125, 123, 120, 118, 115, 112, 110, 108, 105, 103, 100]
```

```
import matplotlib.pyplot as plt
```

```
# Input data
```

```
days = list(range(1, 78))
```

```
stock_prices = [100, 105, 110, 115, 112, 120, 118, 125, 128, 130, 132, 135, 138, 140, 142, 144, 145,
148, 150, 155, 160, 158, 162, 165, 170, 172, 175, 178, 180, 182, 185, 188, 190, 192, 195, 198, 200,
198, 195, 193, 190, 188, 185, 182, 180, 178, 175, 172, 170, 168, 165, 162, 160, 158, 155, 152, 150,
148, 145, 143, 140, 138, 135, 132, 130, 128, 125, 123, 120, 118, 115, 112, 110, 108, 105, 103, 100]
```

```
# Plotting the data
```

```
plt.figure(figsize=(10, 6))
```

```
plt.plot(days, stock_prices, marker='o', color='r', linestyle='-') # Plotting the data
```

```
plt.title('Daily Closing Prices of Stock')
```

```
# Adding labels and title
```

```
plt.xlabel('Days')
```

```
plt.ylabel('Price (USD)')
```

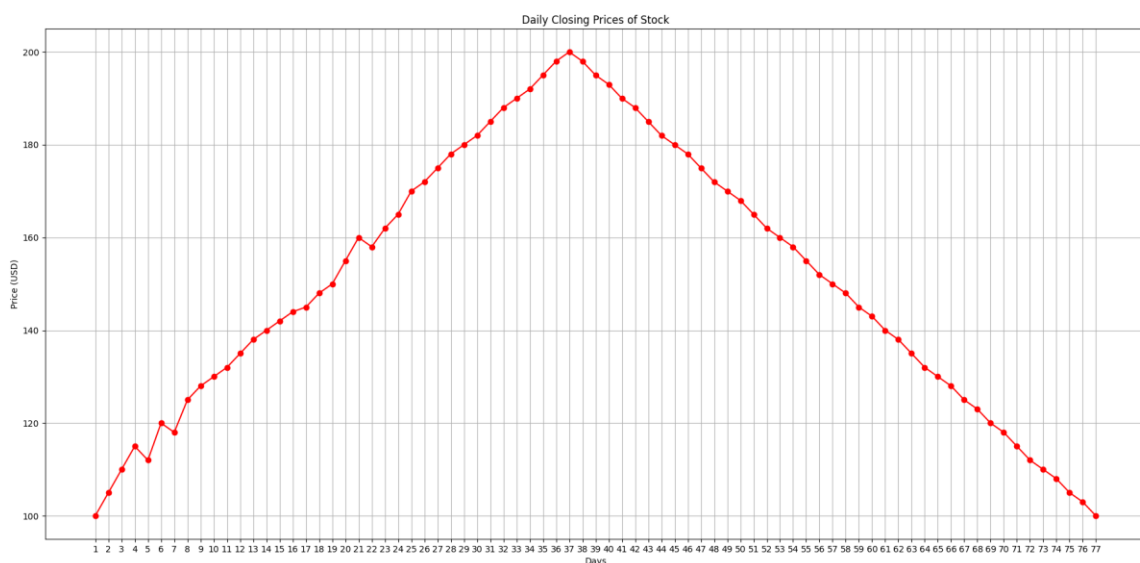
```
# Displaying the plot
```

```
plt.grid(True)
```

```
plt.tight_layout()
```

```
plt.show()
```

Output:-



#3: Create a bar chart to represent monthly expenses in different spending categories and give your conclusion.

```
#Input: categories = ['Rent', 'Groceries', 'Utilities', 'Entertainment', 'Transportation']
```

```
# Monthly expenses in dollars (replace with your own data)
```

```
#expenses = [1200, 400, 200, 150, 250]
```

```
import matplotlib.pyplot as plt
```

```
# Input data
```

```
categories = ['Rent', 'Groceries', 'Utilities', 'Entertainment', 'Transportation']
```

```
expenses = [1200, 400, 200, 150, 250]
```

```
plt.figure(figsize=(10, 6))
```

```
plt.bar(categories, expenses, color='skyblue')    # Plotting the data
```

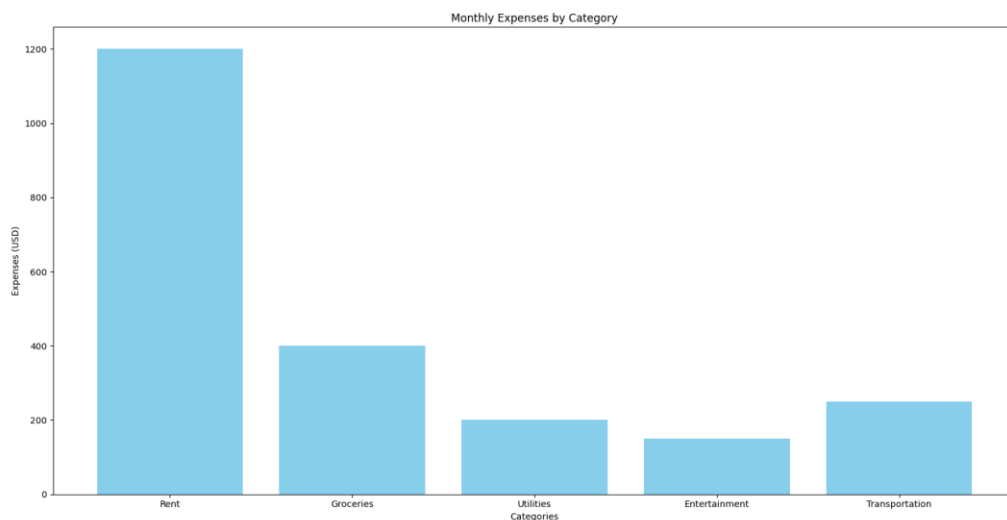
```
plt.title('Monthly Expenses by Category')        # Adding labels and title
```

```
plt.xlabel('Categories')
```

```
plt.ylabel('Expenses (USD)')
```

```
plt.show()
```

Output:-



#4: Create a histogram to represent the distribution of product prices in a retail store and give your conclusion.

#Input: product_prices = [24.99, 34.99, 49.99, 64.99, 39.99, 54.99, 79.99, 99.99, 29.99, 44.99, 59.99, 69.99, 84.99, 109.99, 119.99, 89.99, 74.99, 124.99, 69.99, 54.99]

```
import matplotlib.pyplot as plt
```

```
# Input data
```

```
product_prices = [24.99, 34.99, 49.99, 64.99, 39.99, 54.99, 79.99, 99.99, 29.99, 44.99, 59.99, 69.99, 84.99, 109.99, 119.99, 89.99, 74.99, 124.99, 69.99, 54.99]
```

```
# Plotting the data
```

```
plt.figure(figsize=(10, 6))
```

```
plt.hist(product_prices, bins=5, color='lightgreen', edgecolor='black') # Plotting the data
```

```
# Adding labels and title
```

```
plt.title('Distribution of Product Prices')
```

```
# Adding labels and title
```

```
plt.xlabel('Price Range (USD)')
```

```
plt.ylabel('Frequency')
```

```
# Displaying the plot
```

```
plt.grid(True)
```

```
plt.show()
```

Output:-

