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# DSC 540-T302 Data Preparation
# Week 1&2
# Question 2

# 2. Create a Jupyter notebook where you create a list, iterate over the list
# and sort your results, generate random
# numbers, add to the list, and then print your results.
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```
import random

if __name__ == '__main__':

    # Create a list
    l = [6, 9, 2, 8, 1, 5, 3]

    # Iterate over the list and sort your result
    for i in range(0, len(l) - 1):
        for j in range(i + 1, len(l)):
            if (l[i] > l[j]):
                l[i], l[j] = l[j], l[i]

    print("Sorted list : ")
    print(l)

    print(random.choice(l))

    # generate random number
    n = random.randint(1, 50)

    # Add random number to the list
    l.append(n)

    # Print the list
    print(l)
```

```
Sorted list :
[1, 2, 3, 5, 6, 8, 9]
9
[1, 2, 3, 5, 6, 8, 9, 45]
```

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# Question 3
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# Create a line chart with Matplotlib and the following data file.
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[3]:

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

var = pd.read_excel('world-population.xlsxm')

x = list(var['Year'])
y = list(var['Population'])
plt.plot(x, y)
plt.show()
```

