

NETAJI SUBHAS UNIVERSITY OF TECHNOLOGY

# Machine Learning

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LAB-01 ML

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## Exercise answer 1

```
# Slice elements from index 1 to index 5 from the following array: [1,2,3,4,5,6,7]
import numpy as np
arr = np.array([1,2,3,4,5,6,7])
sarr = arr[1:6]
sarr

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

---

## Exercise answer 2

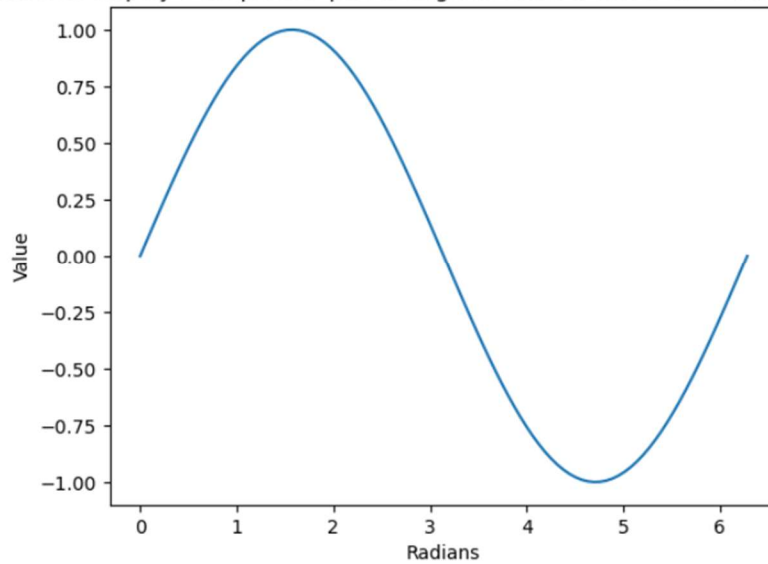
✓  
0s



```
#draw the sine wave using matplotlib
import matplotlib.pyplot as plt
x = np.linspace(0, 2 * np.pi, 100)
y = np.sin(x)
plt.plot(x, y)
plt.title("We will now display a simple line plot of angle in radians vs. its sine value in Matplotlib.")
plt.xlabel("Radians")
plt.ylabel("Value")
plt.show()
```



We will now display a simple line plot of angle in radians vs. its sine value in Matplotlib.

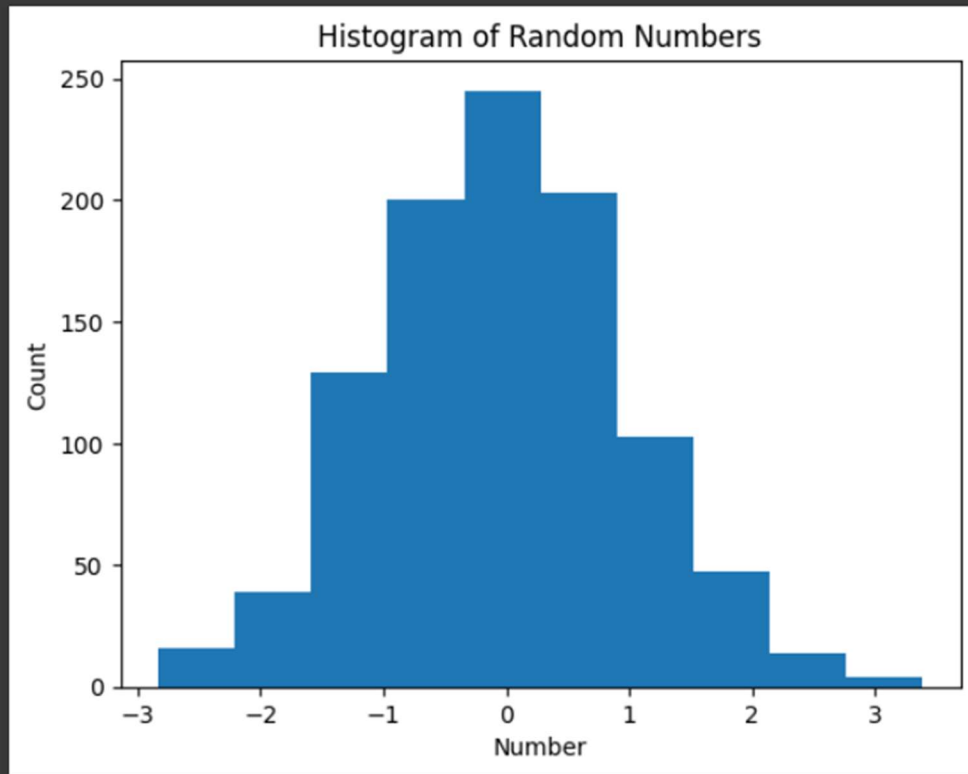


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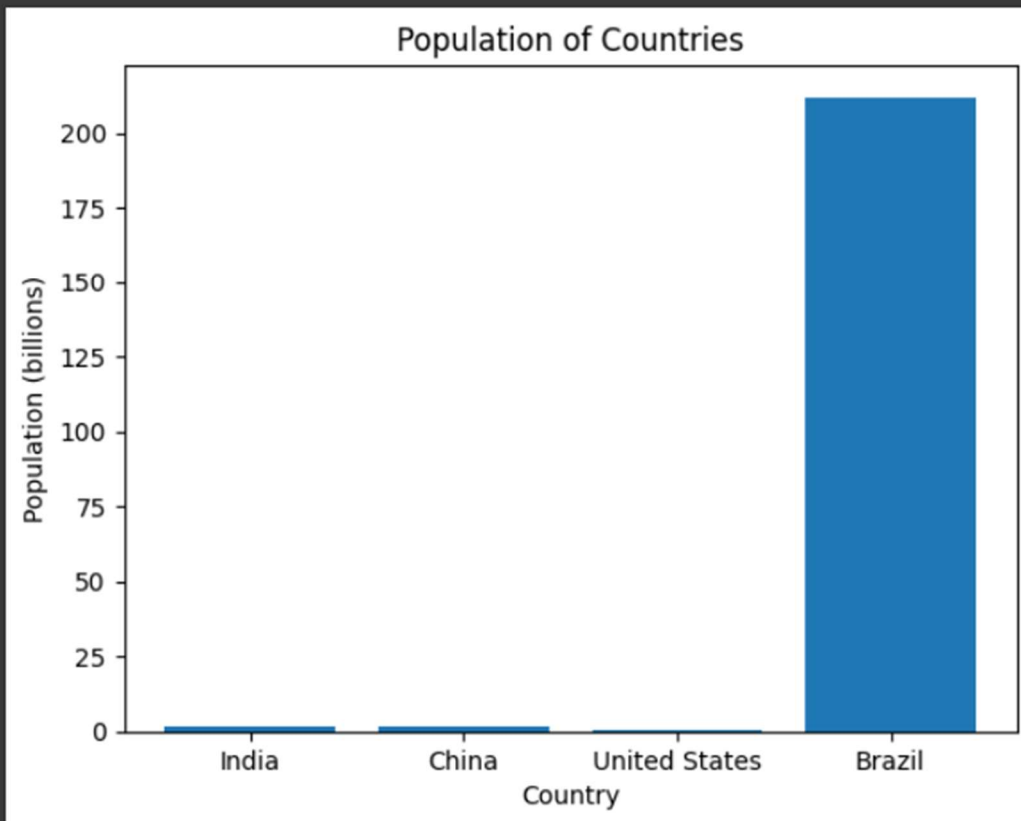
Exercise answer 3

✓  
0s

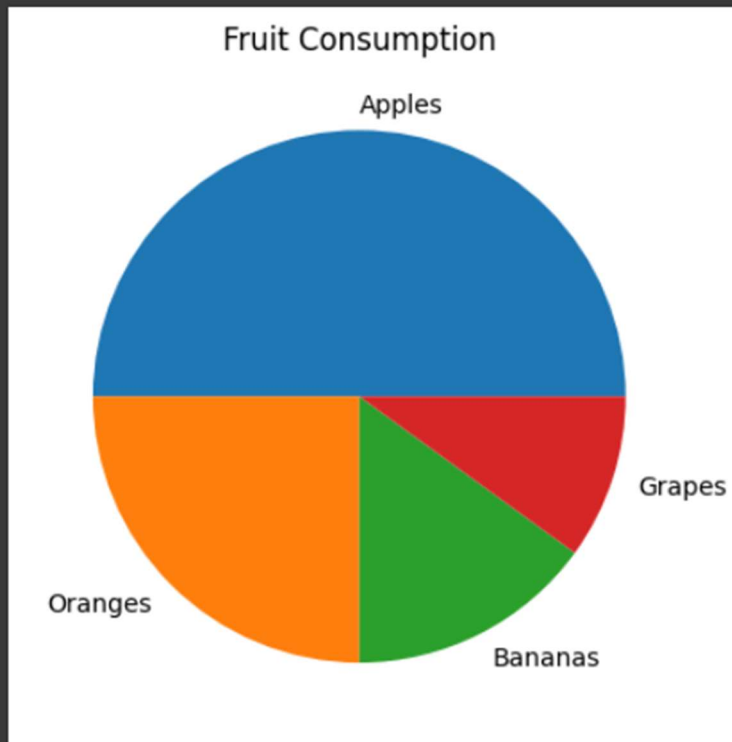
```
[6] data = np.random.randn(1000)
plt.hist(data)
plt.title("Histogram of Random Numbers")
plt.xlabel("Number")
plt.ylabel("Count")
plt.show()
```



```
[8] countries = ["India", "China", "United States", "Brazil"]
     populations = [1.385, 1.444, 0.332, 212]
     plt.bar(countries, populations)
     plt.title("Population of Countries")
     plt.xlabel("Country")
     plt.ylabel("Population (billions)")
     plt.show()
```



```
[10] fruits = ["Apples", "Oranges", "Bananas", "Grapes"]
percentages = [50, 25, 15, 10]
plt.pie(percentages, labels=fruits)
plt.title("Fruit Consumption")
plt.show()
```



```
x = np.linspace(0, 2 * np.pi, 100)
y = np.cosh(x)
plt.plot(x, y)
plt.xlabel("Radians")
plt.ylabel("Value")
plt.show()
```

