

DAV-1 Module Test: Attempt-1

1. Libraries – Score 50 [Change the values]

What will be the output of the following code?

```
array = np.random.randint(1, 101, size=(5, 5))  
array[(array > 50) & (array < 80)] = 0  
array[array != 0] = 1
```

- An array of size (5,5) filled with random integers from 1 to 101 with all values between 50 and 80 replaced with 0 and all other values set to 1.
- An array of size (5,5) filled with random integers from 1 to 101 with all values between 50 and 80 replaced with 1 and all other values set to 0.
- An array of size (5,5) filled with random integers from 1 to 101 with all values between 50 and 80 replaced with 1 and all other values left unchanged.
- An array of size (5,5) remains unchanged

2. Libraries – Score 75 [Sum of Last Row]

Create an array containing numbers starting from 1 to 10 (both inclusive).

Extract the numbers that are divisible 4 and 5 separately.

Stack them vertically such that the numbers which are divisible by 4 are above the numbers which are divisible by 5, and transpose the resulting array.

What would be the total sum of the last row?

- 9
- 12
- 15
- 18
- 14

3. Libraries – Score 75 [Transformer]

Create an array from starting from **100 to 115 (both included)** and transform the array to **square matrix**.

Take the **transpose** of the matrix.

What will be the mean of the last row?

- 107.0
- 108.0
- 109.0
- 110.0

4. Libraries – Score 100 [Stack them up]

Create an Array A with values ranging from **1 to 5 (both inclusive)** and Array B with values ranging from **6 to 10 (both inclusive)**.

Stack these two arrays vertically.

What will be the sum of the third column?

- 10
- 11
- 12
- 13

5. Libraries – Score 75 [Highest mean fare]

Consider the titanic dataset of the seaborn library.

Which embark_town has the **highest mean fare**?

Use the code given below to import the dataset in the notebook:

```
import seaborn as sns
df=sns.load_dataset('titanic')
```

- Cherbourg
- Queenstown
- Southampton
- All have same mean fare

6. Libraries – Score 75 [Taxis Null Payment]

Consider the taxis dataset available in the seaborn library and answer the following.

How many null values are present in the “payment” column?

Use the code given below to import the dataset in the notebook:

```
import seaborn as sns
df=sns.load_dataset('taxis')
```

- 43
- 44
- 45
- 46

7. pandas – Score 75 [Mean of a regiment]

Select the correct option(s) that will help us determine the mean pretest scores for regiment nighthawk

```
import pandas as pd

raw_data = {'regiment': ['Nighthawks', 'Nighthawks', 'Nighthawks', 'Nighthawks',
'Dragoons', 'Dragoons', 'Dragoons', 'Dragoons', 'Scouts', 'Scouts', 'Scouts',
'Scouts'],
'company': ['1st', '1st', '2nd', '2nd', '1st', '1st', '2nd', '2nd', '1st', '1st',
'2nd', '2nd'],
'name': ['Miller', 'Jacobson', 'Ali', 'Milner', 'Cooze', 'Jacon', 'Ryaner', 'Sone',
'Sloan', 'Piger', 'Riani', 'Ali'],
'preTestScore': [4, 24, 31, 2, 3, 4, 24, 31, 2, 3, 2, 3],
'postTestScore': [25, 94, 57, 62, 70, 25, 94, 57, 62, 70, 62, 70]}

df= pd.DataFrame(raw_data)
```

- `df['preTestScore'].mean()`
- `df[df['regiment']=="Nighthawks"]['preTestScore'].mean()`
- `df.groupby(by="regiment")['preTestScore'].mean()`
- `df['preTestScore'].avg()`

8. Data Visualizations – Score 75 [X versus X squared]

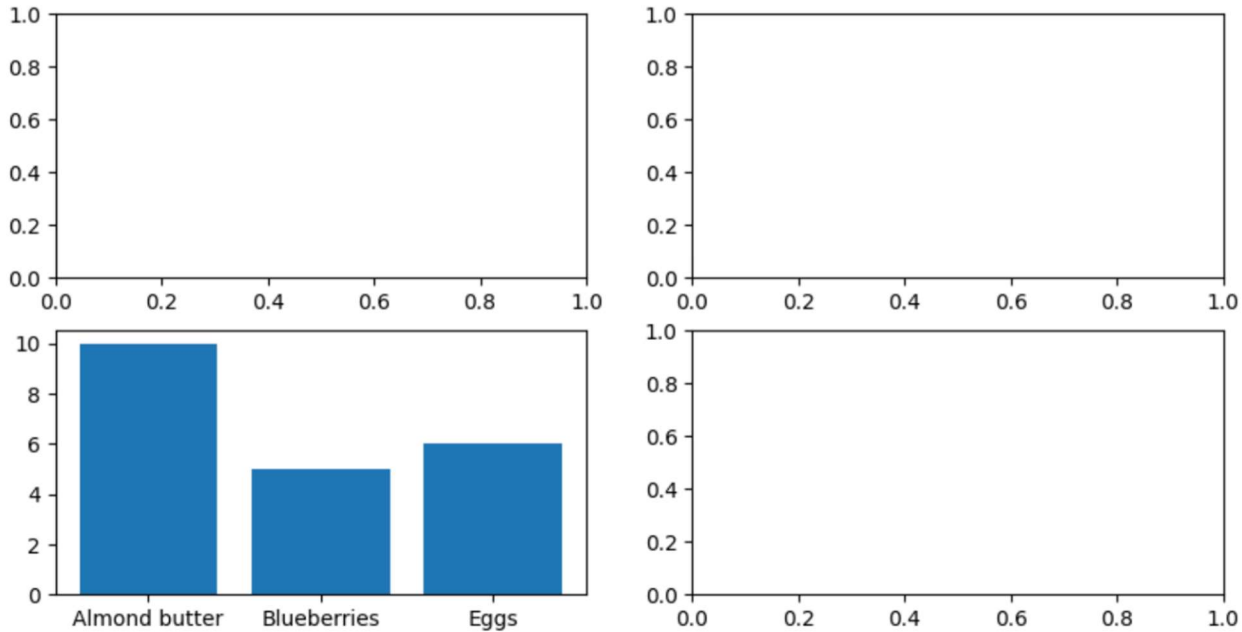
Choose the appropriate option to fill the blanks at positions A and B based on the specified tasks associated with each blank.

```
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline

X = _____A_____ #Create an array of 100 evenly spaced numbers between 0 and
10 using NumPy
fig, ax= plt.subplots() #Create a plot using plt.subplots()
_____B_____ #Plot X versus X^2 (X squared)
```

- `A= np.linspace(0, 10, 100)` and `B= plot(X, X^2)`
- `A= np.linspace(0, 100, 10)` and `B= sub.plot(X, X^2)`
- `A= np.linspace(0, 100, 10)` and `B= fig.plot(X, X^2)`
- `A= np.linspace(0, 10, 100)` and `B= ax.plot(X, X**2)`

9. Data Visualizations – Score 75 [Correct code for plot]



Options:

- A. `favourite_food_prices = {"Almond butter": 10,"Blueberries": 5,"Eggs": 6}`
`fig, ax = plt.subplots(2,2,figsize=(10, 5))`
`ax[2,1].bar(favourite_food_prices.keys(), favourite_food_prices.values())`
- B. `favourite_food_prices = {"Almond butter": 10,"Blueberries": 5,"Eggs": 6}`
`fig, ((ax1, ax2), (ax3, ax4)) = plt.subplots(2,2,figsize=(10, 5))`
`ax2.bar(favourite_food_prices.keys(), favourite_food_prices.values())`
- C. `favourite_food_prices = {"Almond butter": 10,"Blueberries": 5,"Eggs": 6}`
`fig, ((ax1, ax2), (ax3, ax4)) = plt.subplots(2,2,figsize=(10, 5))`
`ax3.bar(favourite_food_prices.keys(), favourite_food_prices.values())`
- D. `favourite_food_prices = {"Almond butter": 10,"Blueberries": 5,"Eggs": 6}`
`fig, ax = plt.subplots(2,2,figsize=(10, 5))`
`ax[1,0].bar(favourite_food_prices.keys(), favourite_food_prices.values())`

- Only A and B are correct
- Only B and C are correct
- Only A and C are correct
- Only C and D are correct

10. pandas – Score 75 [Mastercard transactions]

Using the below-given dataset,

Determine how many people have Mastercard as their Credit Card Provider and made a purchase above \$95

Datasetlink: [link](#)

Steps to download the dataset:

- Click on the link it'll open a new window with the dataset
- Right click on an empty space ensure no text is selected and click on "Save as" options
- Select the download location and add extension ".csv" and click on save

- 39
- 42
- 48
- 45

11. pandas – Score 100 [Credit card expiry]

Using the below-given dataset,

Determine how many people have a credit card that expires in 2025.

Datasetlink: [link](#)

Steps to download the dataset:

- Click on the link it'll open a new window with the dataset
- Right click on an empty space ensure no text is selected and click on "Save as" options
- Select the download location and add extension ".csv" and click on save

- 1000
- 1222
- 1033
- None of the given options