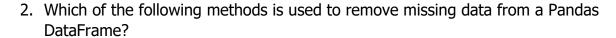# Mock Test I

MCQs

1. Which of the following libraries in Python is commonly used for numerical computing and working with arrays?

A) Pandas

B) Seaborn

C) NumPy

D) Matplotlib

2. Which of the following methods is used to remove missing data from a Pandas DataFrame?

A) dropna()

B) fillna()

C) replace()

D) isnull()

3. In a Seaborn pairplot(), what does the diagonal plot show by default?

A) Scatter plot

B) KDE (Kernel Density Estimate)

C) Box plot

D) Histogram

4. What is the output of the following code?

```
X = 12
if (X>10 & X<15):
print('YES')
else:
print('No')
```

- YES
- NO
- Error
- No Output

5. Complete the piece of code to print a maximum of three variables, a,b and c.

```python
a=10
b=16
c=20
if(***missing part1****):
  print("a")
elif(*****missing part 2*****):
  print("b")
else:
  print("c")
```

- Missing Part 1: a > b,c
  Missing Part 2: b > a,c

- Missing Part 1: a > b and a > c
  Missing Part 2: b > a and b > c

- Missing Part 1: c < a and c < b
  Missing Part 2: a < b

- Missing Part 1: (b < a, a > c)
  Missing Part 2: (b > a, c < b)

Subjective Questions

1. Define the term 'Data Wrangling in Data Analytics.
2. How do you treat outliers in a dataset?
3. How would you handle missing data in a dataset?
4. What are the most commonly used Python libraries for data analysis and their functions?
5. How do you manipulate and aggregate data using pandas in Python?

Coding Questions

1. Write a code to check if the string that the user enters starts with a vowel or not. Print capital YES or NO. For example, if input = 'analytics' then, your output should print 'YES'.

Sample Input:
Alpha, analytics
Sample Output:
YES
Sample Input:
Time, Sample
Sample Output:
NO

2. Given a single positive integer n, create a NumPy array of size (n x n) with alternating ones and zeros to form a checkerboard pattern.

Sample Input:

6

Sample Output:

[[1 0 1 0 1 0]

 [0 1 0 1 0 1]

 [1 0 1 0 1 0]

 [0 1 0 1 0 1]

 [1 0 1 0 1 0]

 [0 1 0 1 0 1]]