Assignment-6

Find the Output

Q-1
```
import pandas as pd

data = [10, 20, 30, 40, 50]
index = ['a', 'b', 'c', 'd', 'e']
series = pd.Series(data, index=index)
print(series)
print(series['c'])
```

Q-2
```
s1 = pd.Series([1, 2, 3, 4, 5])
s2 = pd.Series([5, 4, 3, 2, 1])
print("Addition:\n", s1 + s2)
print("Multiplication:\n", s1 * s2)
```

Q-3
```
s = pd.Series([15, 25, 35, 10, 45])
print("Values greater than 20:\n", s[s > 20])
```

Q-4
```
grades = {'Physics': 85, 'Math': 90,
'Chemistry': 78, 'Biology': 92}
series = pd.Series(grades)
print(series)
print("Math grade:", series['Math'])
```

Q-5
```
s = pd.Series([10, 20, None, 40, 50])
print("Original Series:\n", s)
s_filled = s.fillna(s.mean())
print("After Filling NaN with Mean:\n",
s_filled)
```

Q-6
```
s = pd.Series([30, 10, 50, 20, 40], index=['a',
'b', 'c', 'd', 'e'])
print("Sorted by Values:\n", s.sort_values())
print("Sorted by Index:\n", s.sort_index())
```

Q-7
```
s = pd.Series([10, 20, 30, 40, 50])
print("Logarithm (base 10):\n",
s.apply(lambda x: pd.np.log10(x)))
print("Cumulative Sum:\n", s.cumsum())
```

Q-8
```
s = pd.Series([10, 20, 20, 30, 40, 40,
40])
print("Unique Values:", s.unique())
print("Value Counts:\n",
s.value_counts())
```

Q-9
```
s1 = pd.Series([10, 20, 30, 40], index=
['a', 'b', 'c', 'd'])
s2 = pd.Series([50, 60, 70, 80], index=
['b', 'c', 'd', 'e'])
result = s1 + s2
print("Addition Result:\n", result)
```

Q-10
```
s = pd.Series([10, 15, 20, 25, 30])
new_s = s.where(s > 20, 0)
print("Original Series:\n", s)
print("Modified Series:\n", new_s)
```