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COURSE NAME: Data Science with Python Career Program (ChatGPT Included)

ASSIGNMENT: PYTHON (MAJOR)

Q1. Find the data type of these two declarations

x=5

y= John

Ans-

```
Major Project Python.py > ...  
1  x = 5  
2  y = "John"  
3  
4  print(type(x))  
5  print(type(y))
```

```
<class 'int'>  
<class 'str'>
```

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Q2. Check whether the following syntax is valid or invalid for naming a variable.?

Example:abc=100#validsyntax

- 1) 3a=10
- 2) @abc=10
- 3) a100=100
- 4) _a984_=100
- 5) a9967\$=100
- 6) xyz-2=100

Ans-

```
def is_valid_variable_name(variable_name):  
    return variable_name.isidentifier()  
  
print(is_valid_variable_name("3a"))  
print(is_valid_variable_name("@abc"))  
print(is_valid_variable_name("a100"))  
print(is_valid_variable_name("_a984_"))  
print(is_valid_variable_name("a9967$"))  
print(is_valid_variable_name("xyz-2"))
```

```
False  
False  
True  
True  
False  
False
```

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Q3) Check if an element exists in the list in Python.

list=test_list= [1,6,3,5,3,4]

1)Check if 3 exist or not.

2)Check if 9 exists or not.

Ans:

```
test_list = [1, 6, 3, 5, 3, 4]
element_to_check_1 = 3
if element_to_check_1 in test_list:
    print(f"{element_to_check_1} exists in the list.")
else:
    print(f"{element_to_check_1} does not exist in the list.")

element_to_check_2 = 9
if element_to_check_2 in test_list:
    print(f"{element_to_check_2} exists in the list.")
else:
    print(f"{element_to_check_2} does not exist in the list.")
```

```
3 exists in the list.
9 does not exist in the list.
```

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Q4) Take the user input to print the current date?

Ans:

```
from datetime import date
current_date = date.today()
print(f"The current date is: {current_date}")
```

```
The current date is: 2023-11-13
```

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Q5) What is the output of the following code?

a) `print9//2`

b) `print9%2`

Ans:

```
print(9 // 2)
print(9 % 2)
```

```
4
1
```

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Q6) Print the First 10 Natural Numbers using a while loop.

Ans:

```
counter = 1
while counter <= 10:
    print(counter)
    counter += 1
```

```
1
2
3
4
5
6
7
8
9
10
```

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Q7) Write a program to accept a number from a user and calculate the sum of all numbers from 1 to a given number.

Example=if the user entered 10 the output should be 55(1+2+3+4+5+6+7+8+9+10).

Ans:

```
user_input = int(input("Enter a number: "))
sum_of_numbers = sum(range(1, user_input + 1))
print(f"The sum of all numbers from 1 to {user_input} is: {sum_of_numbers}")
```

Enter a number:

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Q8) Write a Python program that iterates the integers from 1 to 50. For multiples of three print "Fizz" instead of the number and for multiples of five print "Buzz". For numbers that are multiples of both three and five print "FizzBuzz"?

Example: Fizz Buzz

1

2

Fizz

4

Buzz

Ans:

```
for num in range(1, 51):
    if num % 3 == 0 and num % 5 == 0:
        print("FizzBuzz")
    elif num % 3 == 0:
        print("Fizz")
    elif num % 5 == 0:
        print("Buzz")
    else:
        print(num)
```


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```
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
16
17
Fizz
19
Buzz
Fizz
22
23
Fizz
Buzz
26
Fizz
28
29
FizzBuzz
```

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```
31
32
Fizz
34
Buzz
Fizz
37
38
Fizz
Buzz
41
Fizz
43
44
FizzBuzz
46
47
Fizz
49
Buzz
```