

1. Find the datatype of these two declarations:

a. `x = 5`

b. `y = "John"`

➤ `print(type(X))`

➤ `print(type(y))`

Screenshot:

The screenshot shows a Jupyter Notebook window titled 'Major Assignment - Jupyter Notebo'. The browser address bar shows 'localhost:8889/notebooks/Practice/Major%20Assignment.ipynb'. The Jupyter interface includes a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for file operations, running, and code execution. The code cell contains the following text:

```
In [37]: ##Find the datatype of these two declaration :

x = 5
y = "John"
print(type(x))
print (type(y))

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

2. Check whether the following syntax is valid or invalid for naming a variable :

a. `3a=10` **# invalid**

b. `@abc=10` **# invalid**

c. `a100=100` **# valid**

d. `_a984_ = 100` **# valid**

e. `a9967$=100` **# invalid**

f. `xyz-2=100` **# invalid**

3. Check if an element exists in the list in Python :

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

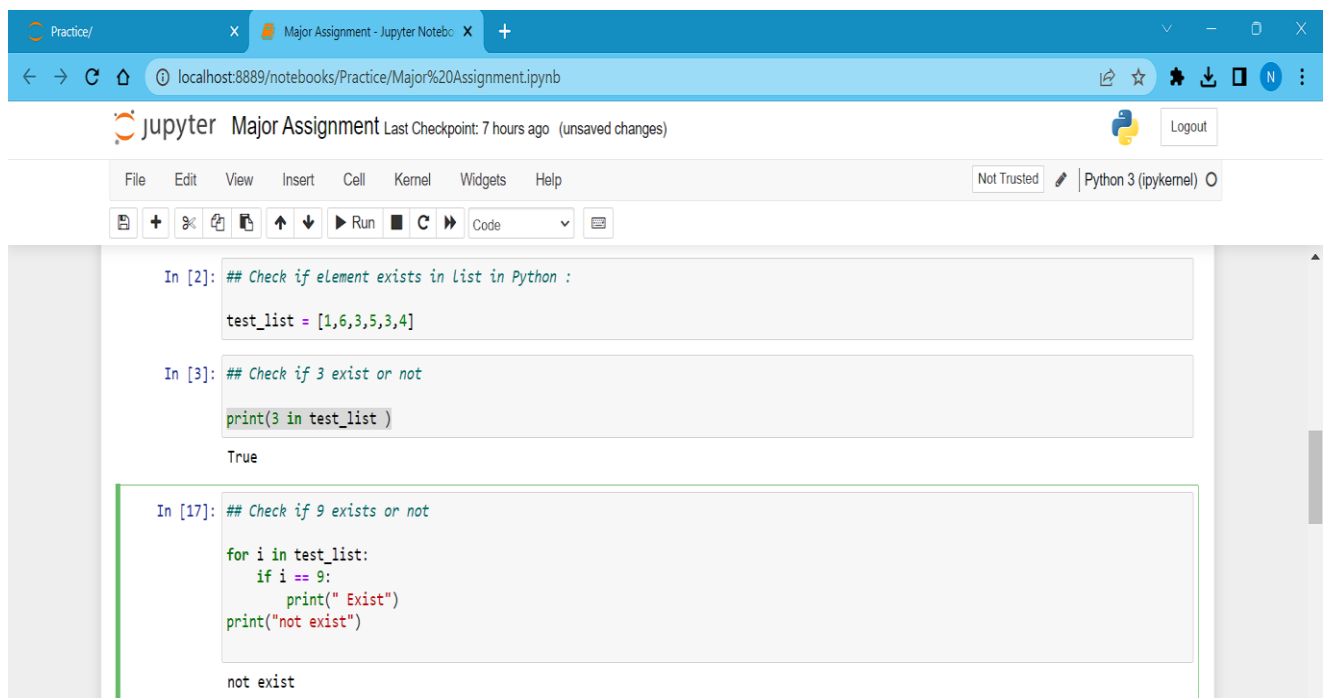
a. Check if 3 exist or not.

```
➤ print(3 in test_list )
```

b. Check if 9 exists or not.

```
➤ for i in test_list:
    if i == 9:
        print(" Exist")
    print("not exist")
```

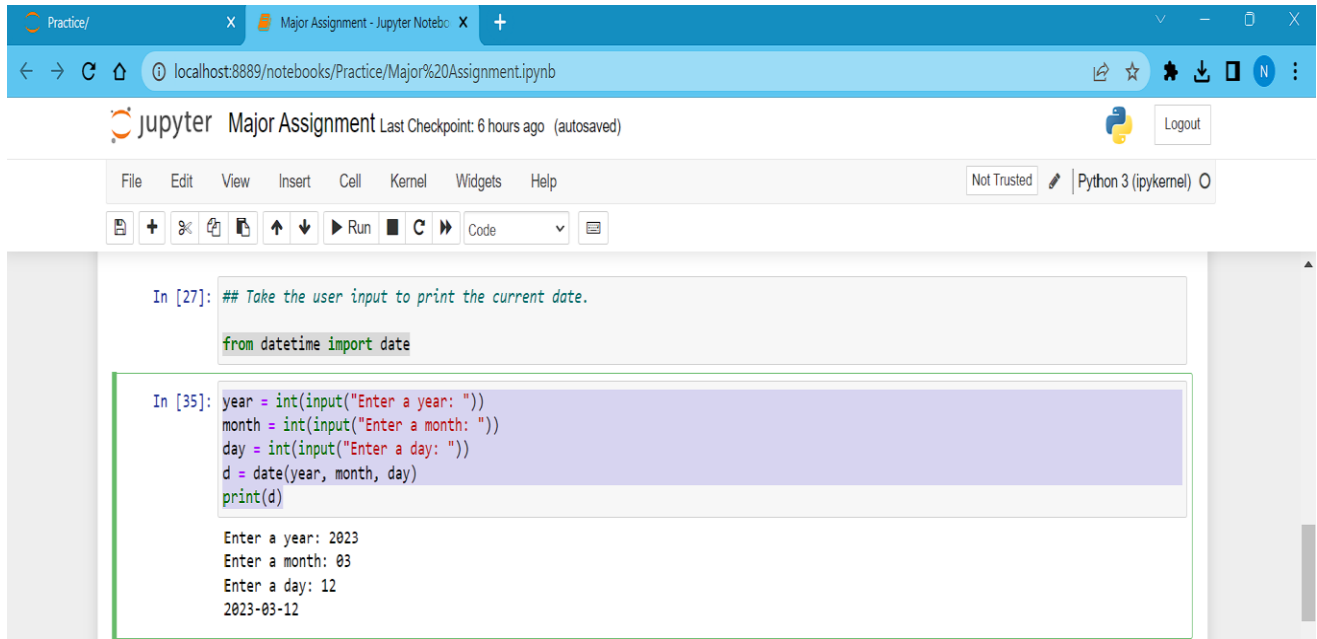
Screenshot:



4. Take the user input to print the current date.

```
➤ from datetime import date
year = int(input("Enter a year: "))
month = int(input("Enter a month: "))
day = int(input("Enter a day: "))
d = date(year, month, day)
print(d)
```

Screenshot:



```

In [27]: ## Take the user input to print the current date.
         from datetime import date

In [35]: year = int(input("Enter a year: "))
         month = int(input("Enter a month: "))
         day = int(input("Enter a day: "))
         d = date(year, month, day)
         print(d)

Enter a year: 2023
Enter a month: 03
Enter a day: 12
2023-03-12

```

5. What is the output of the following code :

a. print 9//2

```

➤ x=9
  y=2
  print(x//y)

```

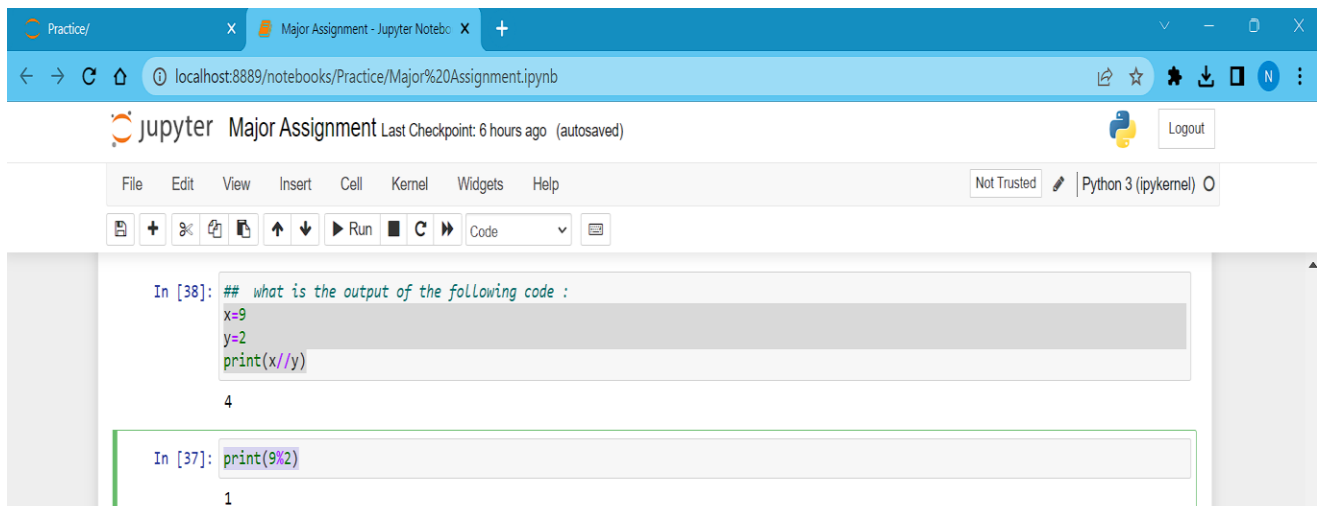
c. print 9%2

```

➤ print(9%2)

```

Screenshot:



```

In [38]: ## what is the output of the following code :
         x=9
         y=2
         print(x//y)

4

In [37]: print(9%2)

1

```

6. Print the First 10 natural numbers using a while loop

➤ `i=1`

`while i<=10 :`

`print(i)`

`i+=1`

Screenshot:

The screenshot shows a Jupyter Notebook window titled 'Major Assignment - Jupyter Notebo'. The browser address bar shows 'localhost:8889/notebooks/Practice/Major%20Assignment.ipynb'. The Jupyter interface includes a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for file operations, running, and code execution. The code cell contains the following Python code:

```
In [1]: ## Print First 10 natural numbers using a while Loop.

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

The output of the code is displayed below the code cell, showing the numbers 1 through 10, each on a new line.

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

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

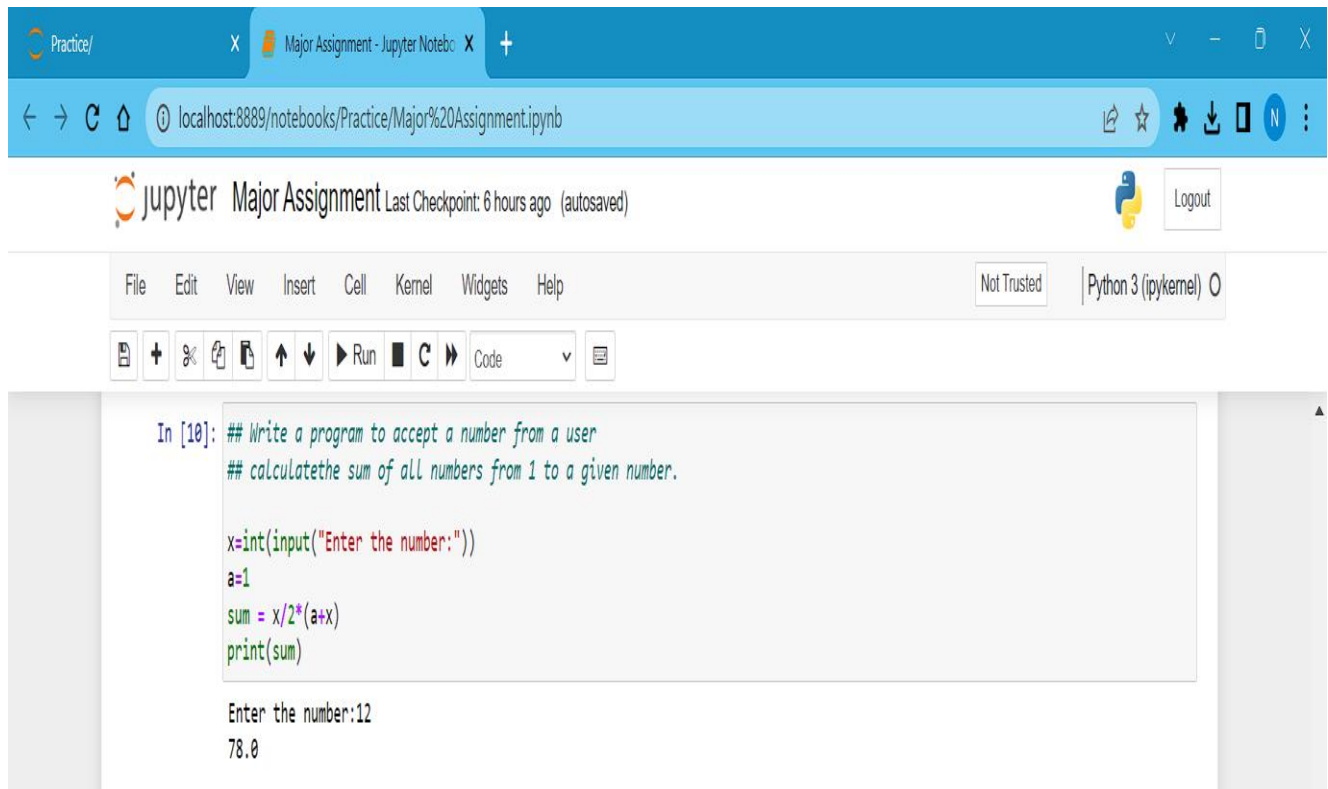
➤ `x=int(input("Enter the number:"))`

`a=1`

`sum = x/2*(a+x)`

`print(sum)`

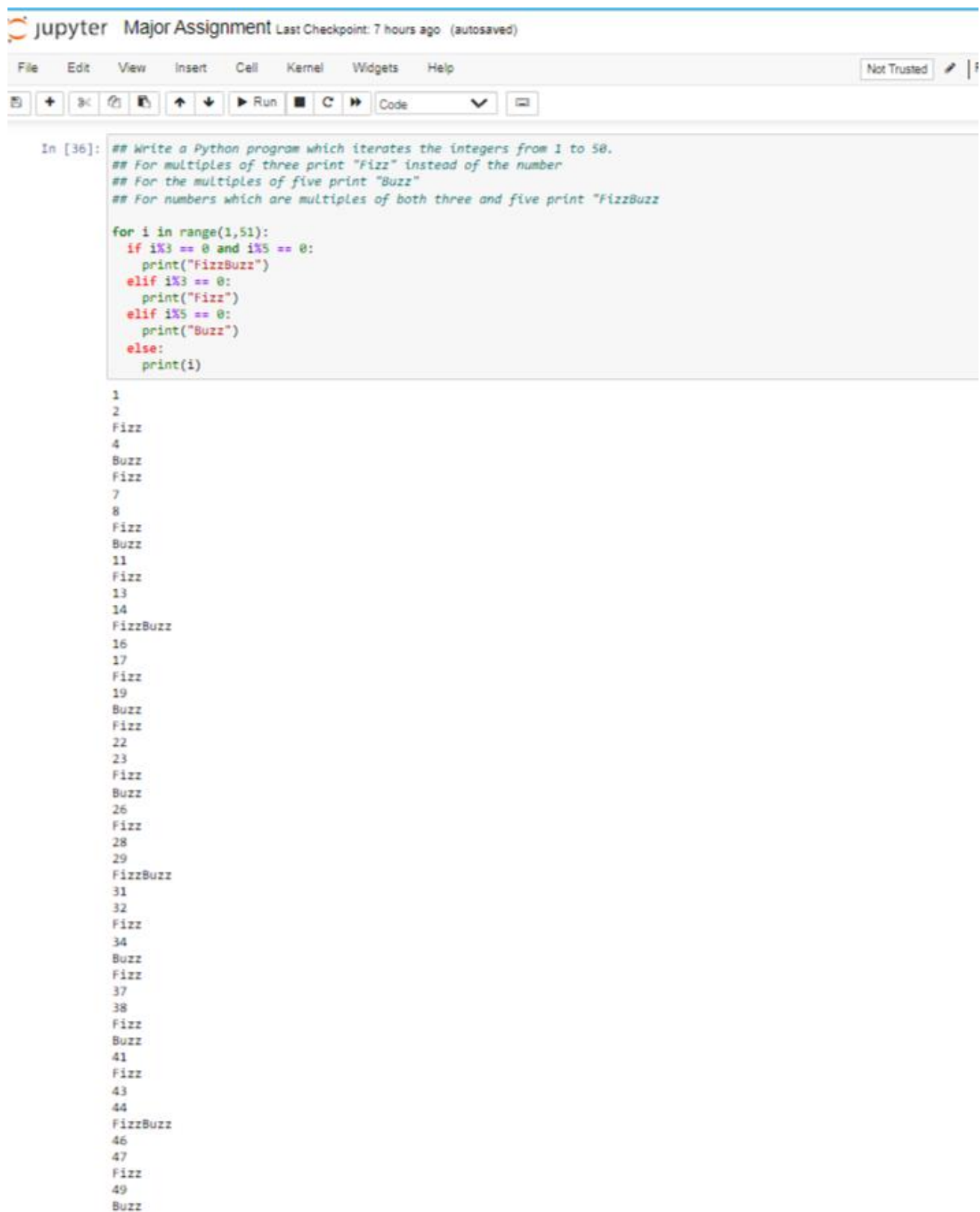
Screenshot:



8. 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".

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

Screenshot:



The screenshot shows a Jupyter Notebook interface with the title 'Major Assignment' and a status 'Last Checkpoint: 7 hours ago (autosaved)'. The menu bar includes File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. A toolbar with various icons is visible below the menu. The code cell contains a Python program for FizzBuzz, and the output cell shows the results of the program.

```
In [36]: ## Write a Python program which iterates the integers from 1 to 50.
## For multiples of three print "Fizz" instead of the number
## For the multiples of five print "Buzz"
## For numbers which are multiples of both three and five print "FizzBuzz"

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

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