1. Find the datatype of these two declaration :

```
x = 5
y = "John"
```

**ANS :**

```
x=5
type(x)
<class 'int'>
y='John'
type(y)
<class 'str'>
```

2. Check whether the following is valid or invalid for naming a variable.
   Example: abc=100 #valid syntax

   i. 3a=10
   ii. @abc=10
   iii. a100=100
   iv. _a984_=100
   v. a9967$=100
   vi. xyz-2=100

**Ans :**

```
3a=10
```

```
  Cell In[14], line 1
    3a=10
    ^
SyntaxError: invalid decimal literal
```

```
@abc=10
```

```
  Cell In[15], line 1
    @abc=10
     ^
SyntaxError: invalid syntax. Maybe you meant '==' or ':=' instead of '='?
```

```
a100=100
```

```
_a984_=100
```

```
a9967$=100
```

```
  Cell In[18], line 1
    a9967$=100
         ^
SyntaxError: invalid syntax
```

```
xyz-2=100
```

```
  Cell In[19], line 1
    xyz-2=100
    ^
SyntaxError: cannot assign to expression here. Maybe you meant '==' instead of '='?
```

**3.** Check if element exists in list in Python :
List = test_list =[1,6,3,5,3,4,]
1.check if 3 exist or not.

**Ans:**

```
test_list=[1, 6, 3, 5, 3, 4]
if 3 in test_list:
    print("3 is exist")
else:
    print("3 is not exist")
```

```
3 is exist
```

2. Check if 9 exists or not.

Ans:

```
test_list=[1, 6, 3, 5, 3, 4]
if 9 in test_list:
    print("9 is exist")
else:
    print("9 is not exist")
```

```
9 is not exist
```

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

```
from datetime import date
today = date.today()
print("Today date:",today)
```

```
Today date: 2023-07-20
```

**or :**

```
from datetime import  date
today = input('Enter Date: ')
print("Today date:",today)
```

```
Enter Date:  21-7-2023
Today date: 21-7-2023
```

**5.** What is the output of the following code:

a. Print 9//2

b. Print 9%2

```
: print (9//2)
```

```
4
```

```
: print(9%2)
```

```
1
```

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

**Ans:**

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

```
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.

For example, if the user entered 10 the output should be 55 (1+2+3+4+5+6+7+8+9+10) :

**Ans :**

```
num = int(input("Enter a number:"))
sum = 0

for i in range(1, num + 1):
    sum += i

print("The sum of numbers from 1 to", num, "is:", sum)
```

```
Enter a number: 10
The sum of numbers from 1 to 10 is: 55
```

**8.** Write a Python program which iterates the integers from 1 to 50. From multiples of three print “Fizz” instead of the number and for the multiples of five print “Buzz”. For numbers which are multiples of both three and five print “FizzBuzz”.
Example:
Fizzbuzz
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)
```

```
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
```

```
Fizz
Buzz
41
Fizz
43
44
FizzBuzz
46
47
Fizz
49
Buzz
```