

1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

\* -----→ operator

'hello' -----→ string

-87.8 -----→ float

- -----→ operator

/ -----→ operator

+ -----→ operator

6 -----→ integer

2. What is the difference between string and variable?

String:→String is a datatype.string is the mostly in single quote, double quote . string is the combination letter, number and special char..

Variable:→ A variable can store everything from strings to numbers.

3. Describe three different data types.

int:→int is used for the number and also called integer.But in this no any decimal number is stored.

Float:-float is used for the decimal number.

String: any text with in two single or double quotes.

```
In [2]: a=10  
        type(a)
```

```
Out[2]: int
```

```
In [4]: b=10.1  
        type(b)
```

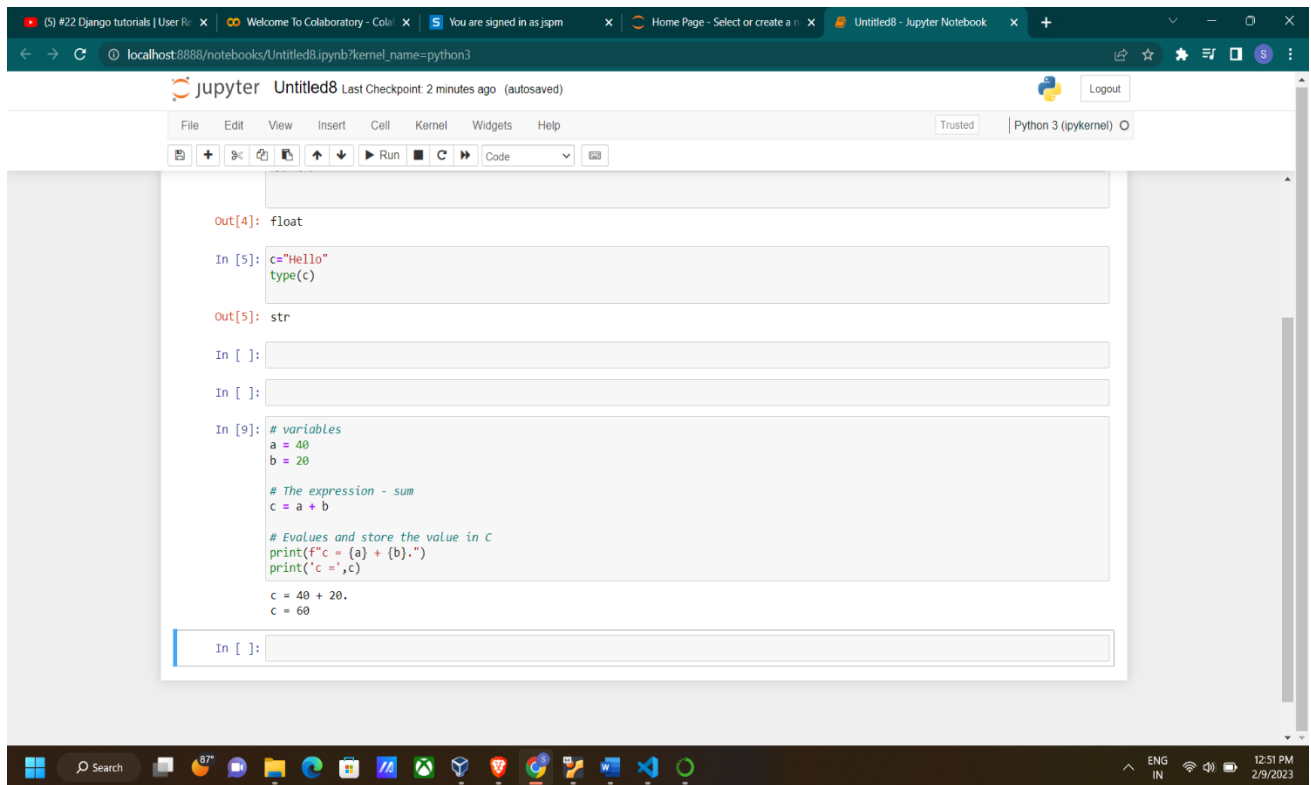
```
Out[4]: float
```

```
In [5]: c="Hello"  
        type(c)
```

```
Out[5]: str
```

#### 4. What is an expression made up of? What do all expressions do?

An Expression is a combination of variables and operators. These expressions perform operations on variables based on the operators and evaluate the values to a single variable.



The screenshot shows a Jupyter Notebook window titled 'Untitled8' with a Python 3 kernel. The notebook contains several code cells. The first cell shows 'Out[4]: float'. The second cell shows 'In [5]: c="Hello"' followed by 'type(c)' and 'Out[5]: str'. The third cell shows 'In [ ]:' followed by a blank line. The fourth cell shows 'In [ ]:' followed by a blank line. The fifth cell shows 'In [9]:' followed by a code block that defines variables 'a' and 'b', calculates their sum 'c = a + b', and prints the result. The output of the fifth cell shows 'c = 40 + 20.' and 'c = 60'.

```
Out[4]: float

In [5]: c="Hello"
        type(c)

Out[5]: str

In [ ]:

In [ ]:

In [9]: # variables
        a = 40
        b = 20

        # The expression - sum
        c = a + b

        # Values and store the value in c
        print(f"c = {a} + {b}.")
        print("c =",c)

        c = 40 + 20.
        c = 60

In [ ]:
```

#### 5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?

Expression:- The expression is used to assign the value. which is the combination of Expression.

Statement:- The statement is assign a value to the var.

In above example Spam=10 is the expression.

#### 6. After running the following code, what does the variable bacon contain?

bacon = 22

bacon + 1

ans:- in the above question bacon value is assigned. But the becon+1 is not assign.

When the becon=22 and a=becon+1 then print(a)=23.

7. What should the values of the following two terms be?

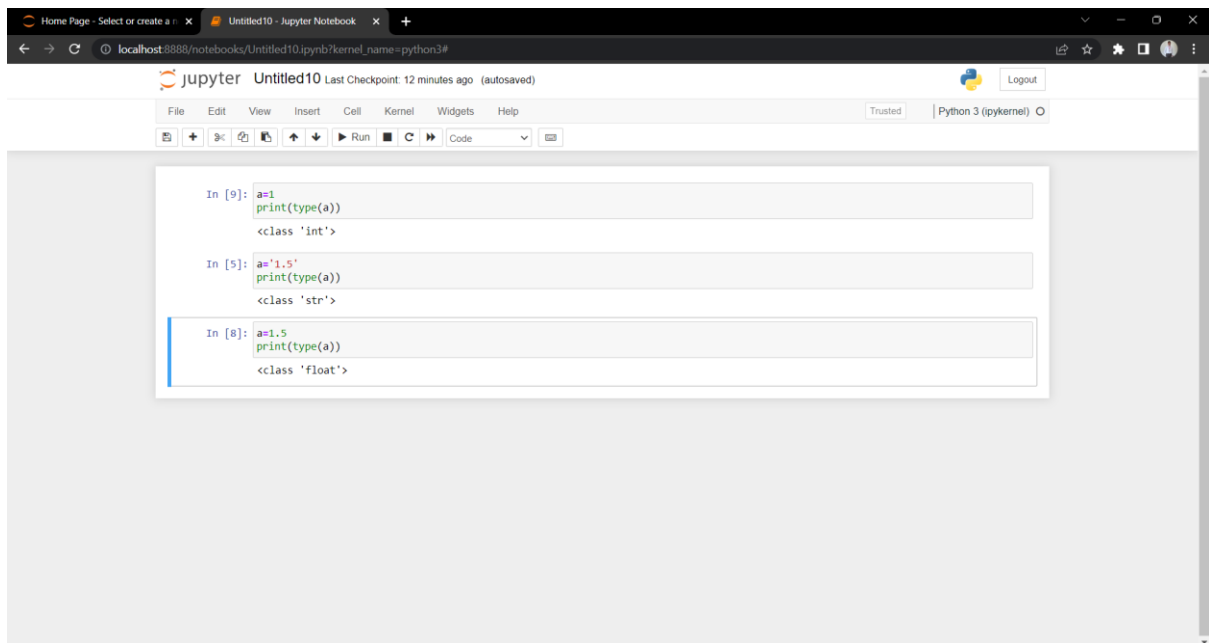
'spam' + 'spamsam' =spamsamsam

'spam' \* 3=spamsamsam

8. Why is eggs a valid variable name while 100 is invalid?

Ans:- because the variable name is starting with alphabets or underscore. In above statement the 'eggs' variable because the starting with alphabet and '100' is the number and Can not define variable.

9. What three functions can be used to get the integer, floating-point number, or string version of a value?



```
In [9]: a=1
        print(type(a))
        <class 'int'>

In [5]: a='1.5'
        print(type(a))
        <class 'str'>

In [8]: a=1.5
        print(type(a))
        <class 'float'>
```

10. Why does this expression cause an error? How can you fix it?

'I have eaten ' + 99 ' burritos.'

Ans;- This will error out since string concatenation with interger values can not be performed. This can be fixed by converting 99 into string by str(99).

