**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.**

\* - **Expression**

'hello' - **Values, String**

-87.8 - **Values (Float)**

- **Expression**

/ - **Expression**

+ **Expression**

6 **Values (Integer)**

**2. What is the difference between string and variable?**

The string represents categorical data – for example – name, place, animal, thing

Variable is used to store any values. It might be a string, number, float, Boolean, complex number, etc

X = ‘Akshay’

Here, X is the variable and ‘Akshay’ is the string

**3. Describe three different data types.**

Integer, - A number without any decimal point ex - 10

Float - A number with a decimal point ex – 10.45

String – A value in categorical form – X= ‘Akshay’

Boolean – True or False

Complex – Consists of real and imaginary numbers Ex- 1+2j

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

The expression has operands and operations which combine to give an output

Ex –

A =25+35

Now this is an expression, where the operands are 25 and 35 and the operation is an addition (+)

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

Expression produces some value. Example – A=10+10, now the value of A is 20

Whereas in statements ‘A=10+10’ does not give any output

In Spam=10

We are assigning the value of 10 to variable spam

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

**bacon = 22**

**bacon + 1**

bacon still contains 22, because ‘bacon+1’ is not assigned to bacon variable

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

**'spam' + 'spamspam'**

**'spam' \* 3**

'spam' + 'spamspam' gives us spamspamspam

'spam' \* 3 also gives us spamspamspam

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

Because the variable should not start with any number or special character

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

1.A= 10.5

A=int(A) , then A becomes 10

2. A=10

A=float(A) then A is still 10.0

3. For string

A= 10

A=str(10), then A becomes ‘10’

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

**'I have eaten ' + 99 + ' burritos.'**

Because string and integer concatenation cannot happen. We must convert 99 to string and then concatenate

Method 1 - 'I have eaten ' + ‘99’ + ' burritos.'

Method 2 - 'I have eaten ' + str(99) + ' burritos.