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.

\*

'hello'

-87.8

-

/

6

**Answer:** values are ‘hello’ 87.8 6

Expressions are - \* / +

2. What is the difference between string and variable?

**Answer:** Variables are symbols that can be used to store data in a program. we can say variables as a blank space/box that we can store some data or value.

String is a type of information we store in a Variable. A String is usually words, enclosed with ""

For example: P = "Hi my name is Pavan ".

P is the Variable, and we declared it as a String, use the single = to assign the text to it.

3. Describe three different data types.

**Answer:**

* Integers (int), ex: whole numbers such as 3,30,300.
* Floating point (float), ex: numbers with decimal point such as 2.3, 4.6, 36.66
* Strings(str), ex: ordered sequence of characters such as “hello” “Pavan”

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

**Answer:** An expression is a combination of values, [variables](https://codepict.com/python-variables/), [function](https://www.w3schools.com/python/python_functions.asp), operators, and operands that is interpreted to produce some other value. In any programming language, an expression is evaluated as per the precedence of its operators. So that if there is more than one operator in an expression, their precedence decides which operation will be performed first. We have many different types of expressions in Python. An Expression always evaluates (calculate) to itself.

**Example: x=1, y=4**, z = x + y

In the above example x, y, and z are variables, 1 and 4 are values, = and + are operators.

So, the first combination x = 1is an expression, the second combination y = 4 is another expression and at last, z = x + y is also an expression.

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

**Answer:** An expression evaluates to a single value, while a statement does not.

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

bacon = 22

bacon + 1

**Answer:** variable bacon contains 23.

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

**Answer:**

'spam' + 'spamspam’ the value will be ‘spamspamspam’

'spam' \* 3 the value will bw ‘spamspamspam’

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

**Answer:** because variable names cannot be a integer it has to be string.

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

**Answer:** The int(), float(), and str() functions will evaluate to the integer, floating-point number, and string versions of the value passed to them.

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

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

**Answer:** we can only concatenate string to a string but we can type cast as

‘I have eaten’ + str (99) + ‘burritos’.

Output will be ‘I have eaten 99 burritos.