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 |
| -87.8 Values |
| - Expression |
| / Expression |
| * Expression |
| 6 Values |

2. What is the difference between string and variable?

|  |  |
| --- | --- |
| **String** | **Variable** |
| It is reserving a memory. Alphabets, words or other character encapsulated with single or double quotes (‘ ‘, “ “). Ex. ‘abcd’ , “254”. | Variable resevres memory in computer dictonary.  Variable can and cannot have a value.  Variables have different data type i.e int, float. Ex. Int a , here a is variable with integer as its data type. |

3. Describe three different data types.

|  |  |
| --- | --- |
| **Data type** | **Description** |
| Integer | It is a numeric data type. Key word – int. Range from -2147483647 to 2147483647. |
| float | It is a numeric data type. Key word – float . Range 1.2E-38 to 3.4E+38 |
| Boolean | Key word- bool . bool having gives expression in True or false form. |

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

Answer- **Expression is made up of Operators(+,-,\*, <,>) and operands (x,y,a,b), which when interpreted it produces other value. Expressions perform the directed operation and gives a result.**

**Ex- x= 10, y= 20 , expression add= x+y;**

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

Answer **– Statements basically represents action or command ex. Print statement, assignment statement. Whereas expression is a combination of variables, operations and it gives a results.**

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

bacon = 22

bacon + 1

Answer – **bacon = 22**

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

'spam' + 'spamspam'

'spam' \* 3

Answer - **'spamspamspam'**

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

Answer – **here , 100 fall in integer datatype automatically as there is no declaration and it is pre- defined, whereas eggs is an independent variable it can and cannot have a defined variable datatype**.

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

Answer- example – input= print (“enter a value”)

Input= 45

1. for integer – int a= int(input);
2. for float – float b= float(input);
3. for string – string c = string(input);

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

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

Answer- **As it can be clearly seen that above string concatenation is done, where 99 is not in string form, so it is giving error. To fix this error type as- 'I have eaten ' + ‘99’ + ' burritos.'**