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

A) **Given,**

**\*, ‘hello’ ,-87.8,-,/,+,6**

**from the above information,**

**‘hello’ ,-87.8,6 are values and \*,/,-,+ are arithmetic operators.**

**combination of values and operators is called expressions.**

**from above question, ’hello’ ,-87.8,6 are values and \*,-,/,+ are expressions.**

2. What is the difference between string and variable?

A)  **string: combination of characters enclosed between single quotes or double quotes is called string.**

**character within single or double quotes always string**

**eg: “jgfhjgf” ,’jkhirgei’ ,’45’**

**variable:**

**variable is a combination of alphacharacters,which holds the values and it also refers its address for further reference.**

**In other programming languages,before of variable name we have to predefine its data type but in python no need to predefine its data type.with the help of variable value it stores its type.**

**eg: b=79 #b is integer**

**cd= ‘ijgjlrokg’ #cd is string type of variable**

3. Describe three different data types.

A) I**n python there are various kinds of data types**

**eg: int, float, string, boolean,long, char,etc.**

**In python, no need to declare data type while declaring the variables .we can directly assign the values to the variable .with the help of value ,it stores its data type.**

**i) Integer: It represents in python as int**

**it is used to represent integers and it stores 4bytes for each value in memory location.**

**eg: 45 #int**

**ii) Boolean: It represents as bool**

**it can store only two kinds of values that are TRUE or FALSE.**

**it stores either of these values not both at a time. and it stores 1 byte for a value.**

**eg: a=True**

**b=False**

**iii)float: it used to represent the values of kinds floating values**

**it represents as float. it can store 8bytes for each value.it can represent upto 2 decimal points only.**

**eg:45.09 #float**

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

A)**An expression is a combination of 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 oerator in an expression, their precedence decides which operation will be performed first.**

**There are various kinds of expressions.**

**some of them sre constant expression,integral expression,arthematic expression,logical expression ,etc,.**

**eg: a=20 #constant expression**

**b=50\*a #arthematic expression**

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

**Expression: an “expression” is a combination of values and functions that are combined and interpreted by the compiler to create a new value**

**The evaluation of an expression does not changes state and produces at least one value as a result.Every expression can’t be a statement.**

**Statement: a “statement” which is just a standalone unit of execution and doesn’t return anything.**

**A Statement is the smallest executable unit of code that has an effect, like creating a variable or displaying a value.The execution of a statement changes state. Execution of a statement may or may not produces or displays a result value, it only does whatever the statement says. Every statement can be an expression.**

**spam=10 is a statement.**

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

bacon = 22

bacon + 1

1. **The final value of bacon is 22.Because in second statement we are increasing but we are not reassigning to the bacon.so,it just run and leave it and the final value of bacon is 22.**

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

'spam' + 'spamspam'

'spam' \* 3

A) **In 1st statement result is ‘spamspamspam’**

**In 2nd statement result is ‘spamspamspam’**

**both are equal expressions.**

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

A)**eggs is valid variable name because it starts with alph characters .**

**100 is invalid variable name because it stats with integer.**

**variable name should start with either underscore(\_) or alphacharacters(a,b,c,...A,B..).**

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

A)**Function int() to get the integer value. Function float() to get the floating point number.**

**Function str() to get the string type value.**

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

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

1. **Above expression cause an error because we can’t make operation between string and integer.**