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.

Ans:-

\* = Expression

'hello' = Value

-87.8 = Value

- = Expression

/ = Expression

+ = Expression

1. = Value

2) What is the difference between string and variable?

Sol:-

Variable is blank container which can store value in them. User can store any type of data like integer, float or double in it. E.g:- a= 10 , where ‘a’ is variable in expression and 10 is integer value stored in variable a.

String is array of characters. String can be declared in single quotation or double quotation. E.g:- a = “Dhiraj Chaware” where a is variable and “Dhiraj Chaware” is string value stored in a.

In conclusion variable can store various data type whereas string is Sentence or paragraph in single quotation or double qutation

3). Describe three different data types?

Sol:- Following are data types

Integer = Whole or real numbers (E.g:- a= 1 or a=20 or a=-1 ) etc.

Float / Double = Integer (E.g:- 0.1 , 0.2 ,0.6)

Boolean = It can be either True or False

String = Can be anything written in ‘ ’ or “ ”

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

Sol:-

|  |  |
| --- | --- |
| = | Assignment operator |
| == | Compare two value |
| + | Arithmetic operator Sum/Add two value |
| - | Arithmetic operator Subtraction / Difference |
| / | Returns quotient of Division |
| % | Return remainder of Division |

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

Sol:- Expression is like assignment operator E.g:- X= 10 is expression. Expression does not give result whereas statement is combination of operant and operator e.g:- x= y+10. This can be used to produce result

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

bacon = 22

bacon + 1

Sol:- bacon = 22 # 22 is assigned to bacon in this step

bacon + 1 #In this step 22+1 is done and value of 22 becomes 23

Hence value of bacon printed will be 23

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

'spam' + 'spamspam'

'spam' \* 3

Sol:- 'spam' + 'spamspam' = 'spamspamspam’ # Concatenation of String

'spam' \* 3 = = 'spamspamspam’ #String is repeated 3 times

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

Sol:- eggs is not a constant so eggs can be variable whereas 100 is a constant value hence it is not a variable. Value of 100 cannot be changed where eggs = 10 can be changed to eggs = 50. Hence eggs is valid variable name where as 100 is not.

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

Int() wil return value of integer

float() will return value of floating point

str() will return value of string

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

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

Sol:- 'I have eaten ' = Is a String

99 = Is integer

' burritos.' = Is String

Hence we cannot add String with integer. To solve above problem we can use expression as

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

Above line will solve problem in given question