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:

Values:

1. 'hello'
2. -87.8
3. 6

Expressions:

1. -
2. /
3. +

2. What is the difference between string and variable?

Ans:

A string is a type of data that represents textual information, while a variable is a named storage location in memory that can hold a value of any data type, including strings.

A variable can store different values at different times during the execution of a program, whereas a string is a fixed sequence of characters that cannot be changed once it has been created. Variables can be assigned values of different data types, such as integers, floating-point numbers, or boolean values, while a string variable can only hold a string value.

3. Describe three different data types.

INTEGER: It is a data type that represent a whole number without a fractional component. It can be a positive or negative value, and its size and range depend on the programming language or the machine architecture. Examples of integer data type includes int, long.

FLOATING POINT: It is a data type that represents a decimal number with a fractional component. It can be a single-precision or double-precision floating point number.

BOOLEAN: It is a data type that represent binary value, either true or false. It is typically used in logical operations and conditional statements.

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

Ans:

An expression made up of operator and operands.

All expressions evaluate to a value, which can be a number, string, boolean, or other data type. The value of an expression depends on the values of the operands and the operation performed by the operator. For example, the expression "2 + 3" consists of the operands 2 and 3, and the operator”+”. When this expression is evaluated, the operator performs the addition operation and the result gives as 5.

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

Ans:

The difference between expression and statements is that expression are evaluated to produce a value, whereas statement perform some action or command. Expressions are used to calculate values.

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

bacon = 22

bacon + 1

Ans:

The answer will be the same as the bacon contains “22”.

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

'spam' + 'spamspam'

'spam' \* 3

Ans:

'spam' + 'spamspam' = spamspamspam

‘spam’\*3 = spamspamspam

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

Ans:

In the case of “ eggs” its start with a letter in alphabetic order and therefore it is a valid variable name.

In the case of “100” its an integer or number and it could not be the variable as the rule, so it’s a invalid variable name.

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

1. INTEGER – **int()**

2. FLOAT – **float()**

3.STRING – **str()**

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

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

Ans:

In this line “99” is the interger and the integer value cannot be concordinate with the string.

So we have to convert the integer value to the string value by using str() operation.

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