**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' 🡪 value

-87.8 🡪value

- 🡪expression

/ 🡪 expression

* 🡪expression

6 🡪 value

**2. What is the difference between string and variable?**

Variable is a reference or pointer to an object. Once an object is assigned to a variable, we can refer to the object by that variable name.

String is a data type , String is a collection of alphabets, words or other characters.

**3. Describe three different data types.**

🡪Numeric data types: int, float, complex

numeric data type is used to hold numeric values

🡪String data types: str

The string is a sequence of characters.

🡪Boolean type: bool. Data type with one of the two built-in values, True or False

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

An expression is a combination of values, variables, operators, and calls to functions. Expressions need to be evaluated based on operands and operators.

Types of expressions:

* Constant Expressions.
* Arithmetic Expressions.
* Integral Expressions.
* Floating Expressions.
* Relational Expressions.
* Logical Expressions.
* Bitwise Expressions.
* Combinational Expressions.

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

Judging from the code above, spam, =, and 10 are expressions because each of them has a definite and unique meaning or value. But if we take all of them together spam = 10 ,then we have a statement.

An expression is any word or group of words or symbols that is a value. In programming, an expression is a value, or anything that executes and ends up being a value.

A statement is a group of expressions and/or statements that you design to carry out a task or an action.

Statements are two-sided – that is, they either do tasks or don't do them.

Expressions can be assigned or used as operands, while statements can only be declared.

Statements create side effects to be useful, while expressions are values or execute to values.

Expressions are unique in meaning, while statements are two-sided in execution.

Statements are the whole structure, while expressions are the building blocks. For example, a line or a block of code is a statement.

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

**bacon = 22**

**bacon + 1**

bacons value now is 23

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

'spam' + 'spamspam' = spamspamspam

'spam' \* 3 =spamspamspam

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

Its because a variable name cannot start with a number.

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

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.'**

Int & str concatenation is not possible

We can convert 99 to ‘99’