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

**Ans**:

**In the given elements, the values are:**

‘hello’ (String)

-87.8 (Float)

6 (Interger)

**The Expressions are**:

\*(Multiplication Operator)

-(Subtraction Operator)

/(Division Operator)

+(Addition Operator)

2. What is the difference between string and variable?

**Ans**:

String- A string is a data type used to represent a sequence of characters. It is enclosed in quotation marks.

Variables- A variable is a named location used to store data in memory.

3. Describe three different data types.

**Ans**:

Three different data types are as below:

* Intergers- They are whole numbers without a fractional component. They can be positive or negative.
  + Eg- x=10
  + Y= -9
* Floats- It represents real numbers and are written with a decimal point.
  + Eg:
  + X= 10.5
  + Y= -5.7
* Strings- These are sequences of character data. They are created by enclosing characters in quotes.
  + Eg-
  + S= “Hello”
  + Print(S)

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

**Ans**:

An expression is made up of literals, variables, operators, and function calls

Combined to produce value, and its purpose is to perform computation or manipulate data.

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

**Ans**:

The key difference between an expression and a statement is that an expression evaluates to a value, while a statement performs an action or controls program flow. An assignment statement like spam=10 is a statement that assigns the value 10 to the variable “spam”.

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

bacon = 22

bacon + 1

**Ans**: The variable bacon will still contain the value 22.

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

'spam' + 'spamspam'

'spam' \* 3

**Ans**: In both cases the resulting value is the string ”spamspamspam”.

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

**Ans**: Variable names cannot begin with a number.

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

**Ans**:

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.'

**Ans**:

The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is

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