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?

Ans: String: string is one of the data types, which is enclosed in quotation mark (single or double)

Variable: storage location in program for all data types

A string is a specific type of data (one among the data type), whereas variable is like container that can hold any type of data, including strings

Ex : name = “Amrutesh”

place = ‘Bengaluru’

(name and place are variable and “Amrutesh” ‘Bengaluru’ are string data type)

3. Describe three different data types.

Ans: **Integer** : An integer is a whole number, positive number or negative , without any decimals

In pyhton , integers are defined using the **int** data type

Ex : a = 5

b = -10

**String** : Characters enclosed in quotation marks either in single or double

String are defined using **str** data type

Ex: name = “Amrutesh”

place = ‘Bengaluru’

Boolean : Boolean data type represents binary value of either True or False.

Its defined using the bool data type.,commonly used in condition statements and logical expressions

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

In Python, an expression is a combination of values, variables, and operators that can be evaluated to a single value. Expressions can be as simple as a single variable or value, or they can be more complex combinations of several values, variables, and operators

Ex : x = 5

y = x + 1

All expressions in Python evaluate to a single value, which can be of any data type. Expressions can be used in a variety of ways, such as assigning the value to a variable, passing the value as an argument to a function, or using the value in a conditional statement.

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

an expression is a piece of code that evaluates to a value, while a statement is a complete line of code that performs an action

example for expression :

* 2 + 3
* "hello" + "world"
* len("python")
* 5 == 5

Example for statement:

* spam = 10
* print("Hello, world!")
* if x > 0: print("Positive")
* for i in range(10): print(i)

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

bacon = 22

bacon + 1

Ans: Bacon contains 22 because we are adding value for variable

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

'spam' + 'spamspam'

'spam' \* 3

Ans: In the first statement concatenate happens therefore result is

‘spamspamspam’

In the second statement ‘spam’ multiple by 3 results in:  
 ‘spamspamspam’

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

Ans: There are set of rules in python in order to valid variable name

we cannot use numbers as variable.

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

Ans: integer : int ex : int(‘2’) >> 2

Floating number : float ex : float(‘2.0’) >>2.0

String : str ex: str(3) >> ‘3’

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

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

Ans : concatenate happens only with same data type

In the above statement there is string data type and integer data type which python will through error