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- There are 4 values and 3 expressions.

they are

Operators: *,-,/,+
Expressions: 'hello', 87.8, 6

2. What is the difference between string and variable?

Ans:- A String is a group of characters or a single character that is usually enclosed in double quotes " " or single quotes ' '.

A variable is used to stored a information.

3. Describe three different data types.

Ans: Three fundamental Data types in python that are **int**, **float**, **complex**.

1. **int data type**: int data type use to represent whole numbers (integral values)
2. **float data type**: float data type use to represent floating point values (decimal values)
3. **complex data type**: Complex number is represented as (real part) + (imaginary part)j.

```
# Example for int data type
int_num=1234
print(int_num, type(int_num))
# Example for float data type
flo_num=1.234
print(flo_num, type(flo_num))
# Example for Complex data type
com_num=10+1.2j
print(com_num, type(com_num))
```

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

Ans: An expression is a combination of values, variables, operators, and calls to functions. Expressions need to be evaluated. If we ask Python to print an expression, the interpreter evaluates the expression and displays the result.

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

Ans:**Ans:** An expression is a combination of values, variables, and operators.When we type an expression at the prompt, the interpreter evaluates it, which means that it finds the value of the expression.

eg: 4*5+20-40 is an example of a statement

A statement is a unit of code that has an effect, like creating a variable or displaying a value.When we type a statement, the interpreter executes it, which means that it does whatever the statement says. In general, statements don't have values.

eg: variable declaration and assignment are statements because they do not return a value

```
#Example:
4*5+20-40 # Is a Expression
courseName = 'INeuron FullStack DataScience' # Is a Statement
print("Hello World !") # Is a Expression Statement
Hello World !
```

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

bacon = 22

bacon + 1

Ans: bacon = 22

bacon + 1

23

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

'spam' + 'spamspam'

'spam' * 3

Ans: `'spamspamspam'`

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

Ans: As per Python variable is a symbolic name that is a reference or pointer to an object .variable names can not begin with a number thats why egg is a valid while 100 is invalid.

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,string version 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: This cause of error is 99.because 99 is not a string. 99 must be typecasted to a string to fix this error. the correct way is:
Input: 'I have eaten ' + str(99) + 'burritos.'
Output: 'I have eaten 99 burritos.'