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: values - 'hello', -87.8, 6
Expression- *, -, /, +
```

2. What is the difference between string and variable?

**Ans**: String is an array of characters. Variable is an object that can be used to store arbitrary assigned values. A string can be stored in a variable.

3. Describe three different data types.

## Ans:

- Numeric data type: Used to represent data with numeric values such as integers, float, etc
- Sequence data type: Used to store multiple values in an organized manner such as string, list, etc
- Boolean data type: Returns one of the two built-in values, True or False.
- 4. What is an expression made up of? What do all expressions do?

**Ans**: An expression is a combination of operators, functions and operands. Expressions produce another other value after interpretation.

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

**Ans**: Statements are instructions for the Python interpreter to execute. For example, assignment statements, while statements, for statements and if statements.

An expression is a combination of values, operators, and functions to be evaluated. The interpreter displays the result of the expression after interpretation.

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

```
bacon = 22
```

bacon + 1

Ans: 22

```
In [3]: 1 bacon = 22 2 bacon + 1 3 bacon
```

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

```
'spam' + 'spamspam'
```

'spam' \* 3

Ans: output: 'spamspamspam'

'spam' + 'spamspam' - string catenation

'spam' \* 3 - string multiplication

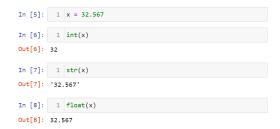
```
In [1]: 1 'spam' + 'spamspam'
Out[1]: 'spamspamspam'
In [2]: 1 'spam' * 3
Out[2]: 'spamspamspam'
```

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

Ans: Variable names 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?

**Ans**: int(),float(),and str() functions can be used to get 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 expression is trying to concatenate strings to integer type values and hence we get an error.

We can fix it simply by converting the integer value to a string.

```
In [10]: 1 'I have eaten ' + str(99) + ' burritos.'

Out[10]: 'I have eaten 99 burritos.'
```