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.

|  |  |
| --- | --- |
| \* | Multiplication Operator (Expression) |
| 'hello' | String Value |
| -87.8 | Float Value |
| - | Subtraction Operator (Expression) |
| / | Division Operator (Expression) |
| + | Addition Operator (Expression) |
| 6 | Integer Value |

2. What is the difference between string and variable?

* **String** is a sequence of characters enclosed in single quotes **' e.g. 'hello'**

or double quotes " **e.g. "Hello”.**

* **Variables** is a name used to store data or values in memory it can hold strings, numbers, or other data types.

**E.g. a = 10, g= “Fathima Khanam”**

3. Describe three different data types.

* **Integer (int):** Example: 5, 2382478, -10.
* **Floating-point (float)**: Example: 343.7567, -874.854364.
* **String (str)**: Example: 'hello', "ABC".

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

A. **Expression** is combination of Variables / Operators / Values and evaluation generates a value.

**Examples. A + B, 4 – 9.**

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

* **Expression** is combination of Variables / Operators / Values and evaluation generates a value.

**Examples. 9 – 8 = 1**

* **Statement** doesn’t generate value as result but it performs action like storing values in variables.

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

bacon = 22

bacon + 1

1. Bacon value is 22 as second line value is not assigned back to bacon variable.

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

'spam' + 'spamspam' = **spamspamsapm (concatenation)**

'spam' \* 3 = **spamspamspam (string multiplied 3 times)**

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

A. Its because variables should start with a Character and underscore followed by digits/letters, and it shouldn’t start with Digits, Numbers or Special characters.

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

A. int() , float(), string() are three different functions which converts the value as specified in.

Examples: int(23.423) = 23  
 float(23) = 23.0  
 string(1) = ‘1’

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

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

1. **Error**: Python cannot concatenate a string ('I have eaten ') with an integer (99).

To resolve this error we can convert the integer 99 to a string using str().

> 'I have eaten ' + str(99) + ' burritos.'