

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: A variable is an object which can hold a value and used to store data in program which can be used in the program. A string is a data type which is used to fill up a variable it can be a sequence of any characters.

3. Describe three different data types.

Ans:

1) Integer: An Integer is a data type which only accepts number without decimal digits. The limit of python integer is -2147483648 through 2147483647.

2) Float: Float is similar to an integer it also accepts numbers but allowing decimal digits In it. The limit of python float is 1.8×10^{308}

3) Bool: The bool data type is used for logical conditions. It takes either true or false as a value

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

Ans: An expression is a combination of operators and operands that is interpreted to produce some other value. All expressions perform some action to provide value and if there are more than one operator in an expression, their precedence decides which operation will be performed first. An expression combines values and functions to create a new value.

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

Ans: The variable is 'spam' and the value is 10.

Expressions are a part of statements they can only consist of identifiers, literals and operators which can be reduced to some kind of value. Statements are everything which can make up a line of code in python. An Expression evaluates to a single value a statement does not.

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

```
bacon = 22
```

```
bacon + 1
```

Ans: 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 the rules, variable names should start with alphabets cannot begin with a number and `100` is a numerical value in python and 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: This expression causes an error because only strings can be concatenated and 99 is an Integer. To fix the following expression we can use the following expression:

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