

1. In the below elements which of them are values or an expression? e.g.: - values can be integer or string and expressions will be mathematical operators.

Values:

'hello'

-87.8

6

The above 'hello', -87.8, 6 are values because 'hello' is a string, 6 is integer, -87.8 is floating point value

Expressions:

*, -, /, +

The above *, -, /, + are expressions because all these are mathematical operators.

2. What is the difference between string and variable?

String are group of characters enclosed with single or double quotes in python.

Ex: "Sam", 'Tom'

Variables are used to store the values in python. In python, we need not to declare any datatypes as python is dynamically typed.

Ex: a = 10, b=11.0, c ='surya'

3. Describe three different data types.

int, float, String

Int – used for integer values

Float – used for floating point values

String – used for character values.

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

Expression is combination of operators and operands.

Expressions are used to perform some arithmetic operations.

Ex: sum = operand1+operand2

In this, above example operand1 and operand2 are operands and + (plus sign) is operator.

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

Expression will produce some results after it get processed whereas statement won't produce any results.

Ex:

`a=10` – is a statement whereas `c= a+b` is an expression.

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

```
bacon = 22
```

```
bacon + 1
```

After running the code, the `bacon` variable contains 22 only it will get incremented but not updated in `bacon` variable because it is not reassigned to the variable.

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

```
'spam'+ 'spamsam'
```

```
'spam'*3
```

In the above example both will return same output as `spamsamsam`.

The difference lies on the operators. `+` operator is concatenation operator used for concatenate the given string but `*` operator is string repetition operator which will repeat the string.

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

Variable names should begin with letter or underscore not with numbers. So, `eggs` are a valid variable name while `100` is invalid.

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

`int()`, `float()`, `str()` these are three functions used to get the versions of value.

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

```
I have eaten + 99 + burritos
```

In the above example the input is string concatenated with integer again concatenated with string that will cause an error (can concatenate only str not int). To fix this we can convert the integer to string by `str()` function which will convert integer to string.