

Assignment 1

Python Basics

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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

Answer:

Values	Expression
'Hello'	*
-87.8	-
6	/
	+

2. What is the difference between string and variable?

Answer: String is a data type and variable is a name that refers to a value. We can think of a variable as a container which can store any type of value or object.

3. Describe three different data types.

Answer: Three different data types are -

Integer(int) - Integer is a data type in python which represents non decimal values. It can be positive, negative or zero. For example: 4, 7, -85, 6567 etc.

String(str) - String is a data type in python which represents a sequence of characters. Strings are wrapped around " or '". For example: "Hello World", "2", 'ineuron' etc.

Boolean(bool) - Boolean is a data type in python which represents two values which is either True or False. Any non zero value is considered as True. In numerical value zero and in string "" or ''(empty string) is considered as False.

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

Answer: An expression is made up of one or more operators and operands.

All expressions represents a operation which can be evaluated to produce a value.

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

Answer: Expressions represents a operation which can be evaluated to produce a value. Whereas statement is a complete instruction or action that performs a specific task in a program. Assignments, loops, Conditionals etc are some examples of statements. Here, `spam = 10` is assignment statement.

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

```
bacon = 22
```

```
bacon + 1
```

Answer: After running this code the variable `bacon` will contain 22. Because the value is not stored after increasing it by 1.

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

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

```
'spam' * 3
```

Answer: Both terms will give same output which is `'spamspamspam'`.

First term performs string concatenation and the second term performs string repetition.

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

Answer: In python, we need to follow some naming conventions. According to those rules a variable name cannot be started with digit or special character except underscore. That's why here `eggs` is a valid variable name while `100` is not.

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

Answer: Three functions are -

`int()` - To get integer.

`float()` - To get floating-point number.

`str()` - To get string.

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

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

Answer: This expression causes error because concatenation only works with strings. Here it is trying to concatenate strings with integer.

We can fix this error by converting the integer into string. Following codes are possible fixes -

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

or

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