

# BASIC PYTHON ASSIGNMENT-1

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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** – In given data the Values are= -87.8, '  
And the expressions are= '-', '/', '+', '\*'

2. What is the difference between string and variable?

**Answer** – **Strings** is a data-type which represents characters. It is used to store data in text form. Strings are denoted by enclosing the characters in single quotes ( ' ' ) or in double quotes ( " " ). Example= "Hello World".  
Variable is like a container or storage location where we can keep any value. It can hold values of different datatypes including strings. We can assign values to the variable by using assignment operator (=).  
Example - Height= [179,184, 187.2, 'Manish']

3. Describe three different data types.

**Answer** –

1. Integer(int): The integer datatype represents the whole number without any fractional or decimal parts.

Example- 45, 10, 87

2. Floating(float): Floating datatype represents number with fractional parts or decimal points.

Example- 4.87, 2.76

3. Boolean data type- it is commonly used in programming to represent conditions or logical expressions that can be either true or false.

True: Represents the logical value "true" or "yes".

False: Represents the logical value "false" or "no".

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

**Answer** – Expressions are made up from the combination of values, operators, variables and function to perform calculations or evaluations that when evaluated, produces a single value. They are used for calculations, assignments, conditions, and as arguments in function calls.

Examples of expressions include mathematical calculations like  $2 + 3$ , variable assignments like  $x = 5$ , or function calls like `len("hello")`.

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

**Answer** – Expressions produce a value when evaluated, while statements perform actions or control the flow of a program. Expressions can be part of statements as assignment a value to a variable, while statements are used to execute instructions.

Example:

1.  $2+3$  is an expression that gives the value 5.
2. `Spam=10`, is a statement that assigns the value '10' to the variable 'spam'. (it is performing an action of assignment without producing a value)

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

```
bacon = 22
```

```
bacon + 1
```

**Answer** –The variable `bacon` will have the value of '23'(int).

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

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

```
'spam' * 3
```

**Answer** – The `+` operator when used with strings performs string concatenation. So, the value of the expression `'spam' + 'spamspam'` is `'spamspamspam'`.

The `*` operator when used with a string performs string repetition. It repeats the string `'spam'` three times. The resulting value will be: `'spamspamspam'`.

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

**Answer** – The 'eggs' is a valid variable name because it follows naming conventions. Conversely, '100' is invalid as it starts with a digit, which we can not take as variable because it violates the naming convention and restrictions in programming.

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

**Answer** –

The int() function can be used to convert a value to an integer data type.

The float() function is used to convert a value to a floating-point number data type

The str() function converts a value to a string data type. It takes any value as an argument and returns its string representation.

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

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

**Answer** – This expression causes an error because it trying to perform concatenation with an integer directly. To fix the error we need to convert the integer to a string before concatenate.

It would be like: 'I have eaten' + str(99)+ 'burritos'