

Assignment 1

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.

'hello'

-87.8

-

/

+

6

Ans: -

Expressions are- *, -, /, +,

Values are- 'hello', -87.8, 6

2. What is the difference between string and variable?

Ans: Variables are the symbols that is used to store a data in a program whereas Strings are data that is use to fill up a variable.

Variable is a store of information, and a String is a type of information that is stored in a Variable. Strings are written under “ ”.

Example: -

String x=” India is beautiful country”

Here ‘x’ is the variable and we have declared it as a String

3. Describe three different data types.

Ans:

Data type	Definition	Example
Integer (int)	Numeric data type for numbers without fractions	1, 2, 0, -3
Floating Point (float)	Numeric data type for numbers with fractions	4, 5, 0.3
Character (char)	Single letter, digit, punctuation mark, symbol, or blank space	Y, a, x, !

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

Ans: An expression is a combination of values and operators.

All expression evaluates (that is reduce) to a single value.

Example of expression:

```
#Expressions
A=2
B=2
C=A+B
print (C)
```

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

Ans: An expression evaluates to a single value. A statement does not. Expressions are representations of value. They are different from statement in the fact that statement do something while expressions are representation of value. For example: - any string is also an expression since it represents the value of the string as well.

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

`bacon = 22`

`bacon + 1`

Ans: - The `bacon` variable is set to 20. The `bacon + 1` expression does not reassign the value in `bacon` (that would need an assignment statement: `bacon = bacon + 1`)

```
bacon = 22
bacon + 1
```

23

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

`'spam' + 'spamspam'`

`'spam' * 3`

Ans: - For the above two expressions it will evaluate to the string `'spamspamspam'`

```
'spam' + 'spamspam'
'spam' * 3
```

`'spamspamspam'`

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

Ans: Variable names cannot begin with a number.

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

Ans: `int ()` for “integer”

`float ()` for “floating point number”

`str ()` for “string “

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

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

Ans: The above expression will cause an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator.

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

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[5], line 1  
----> 1 'I have eaten'+99+'burritos'  
  
TypeError: can only concatenate str (not "int") to str
```

The correct way is `'I have eaten ' + str (99) + ' burritos.'`

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

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