

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.

* It is an expression. It is used to multiply two numbers.

'hello' It is a value, e.g. a string data type.

-87.8 :- It is a float value

- It is an expression. It is used to subtract one number from another.

/ It is an expression to print quotient when a is divided by b.

+ It is an expression. It is used to add one number to another.

6 It is an expression with integer data type.

2. What is the difference between string and variable?

A Variable is a store of information, and a String is a type of information we store in a Variable. A String is usually words, enclosed with " " e.g., String x = "Satyam " X is the Variable, and we declared it as a String, use the single = to assign the text to it.

3. Describe three different data types.

Float – It can contain real numbers. It follows all the mathematical operator.

String – It contains text. Numbers may also be represented as if they are put within ' '. String data types doesn't obey mathematical operator except + which concatenates two strings. A string can be iterated with first character is indexed as 0.

Boolean – It is binary value data type 1 and 0 also called True and False respectively.

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

An expression is a combination of values, variables, operators, and calls to functions. Expressions need to be evaluated. If we print an expression, the interpreter evaluates the expression and displays the result.

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

An expression is something that can be reduced to a value, for example "1+3" is an expression, but "variable = 1+3" is *not* whereas a statement (in addition to above description) can't be reduced to a value.

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

```
bacon = 22
```

```
bacon + 1
```

bacon is a variable with value 22. It means bacon is a integer type value can be called from the variable name 'bacon'. Bacon + 1 means bacon variable is added 1 to it. Hence output is $22 + 1 = 23$.

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

'spam' + 'spamspam' :- + concatenates two strings. Hence the output will be 'spamspamspam'.

'spam' * 3 : When a string character is multiplied with an integer say x, then output is repetition of that string x number of times. Hence output will be 'spamspamspam'.

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

A variable name should either start with a alphabetical character or with an underscore '_'. Rest all of the characters are called an invalid method to name a variable. Hence 'eggs' is a valid variable name and 100 is invalid.

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

int() :- This function can be used to get the integer number of a value.

Float() :- This function can be used to get the float number of a value.

Str() :- This function can be used to get the string version of a value.

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

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

This expression has error term because a string can only be concatenated with a string data type. To make this expression successful, we have to convert data type of 99 from int to string by typecasting. Following is the fixed expression

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