For Loop in R

It is a type of control statement that enables one to easily construct a loop that has to run statements or a set of statements multiple times. For loop is commonly used to iterate over items of a sequence. It is an entry-controlled loop, in this loop the test condition is tested first, then the body of the loop is executed, the loop body would not be executed if the test condition is false.

R – For loop Syntax:

```
for (value in sequence)
{
  statement
}
```

for while loop

It is a type of control statement which will run a statement or a set of statements repeatedly unless the given condition becomes false. It is also an entry controlled loop, in this loop the test condition is tested first, then the body of the loop is executed, the loop body would not be executed if the test condition is false.

R – While loop Syntax:

```
while ( condition )
{
  statement
}
```

Repeat Loop in R

It is a simple loop that will run the same statement or a group of statements repeatedly until the stop condition has been encountered. Repeat loop does not have any condition to terminate the loop, a programmer must specifically place a condition within the loop's body and use the

declaration of a break statement to terminate this loop. If no condition is present in the body of the repeat loop then it will iterate infinitely.

R – Repeat loop Syntax:

```
repeat
{
  statement

  if( condition )
  {
    break
  }
}
```

Switch Statement in C/C++

Difficulty Level : Easy

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Switch case statement evaluates a given expression and based on the evaluated value(matching a certain condition), it executes the statements associated with it. Basically, it is used to perform different actions based on different conditions(cases).

Switch case statements follow a selection-control mechanism and allow a value to change control of execution.

They are a substitute for long if statements that compare a variable to several integral values.

The switch statement is a multiway branch statement. It provides an easy way to dispatch execution to different parts of code based on the value of the expression.

In C++, the switch statement is used for executing one condition from multiple conditions. It is similar to an if-else-if ladder.

Switch statement consists of conditional based cases and a default case.

In a switch statement, the “case value” can be of “char” and “int” type.

Following are some of the rules while using the switch statement:

1. There can be one or N numbers of cases.

2. The values in the case must be unique.

3. Each statement of the case can have a break statement. It is optional.

Syntax:

```
switch(expression)
{
case value1:    statement_1; break;

case value2:    statement_2; break;

.....
......
......
case value_n:    statement_n; break;


default:     default statement;

}
```

Java If-else Statement

The Java if statement is used to test the condition. It checks boolean condition: true or false. There are various types of if statement in Java.

if statement

if-else statement

if-else-if ladder

nested if statement

Java if Statement

The Java if statement tests the condition. It executes the if block if condition is true.

Syntax:

```
if(condition){
//code to be executed
}
```

Binary Search Tree(BST)

In this tutorial, you will learn how Binary Search Tree works. Also, you will find working examples of Binary Search Tree in C, C++, Java and Python.

Binary search tree is a data structure that quickly allows us to maintain a sorted list of numbers.

It is called a binary tree because each tree node has a maximum of two children.

It is called a search tree because it can be used to search for the presence of a number in O(log(n)) time.

The properties that separate a binary search tree from a regular binary tree is

All nodes of left subtree are less than the root node

All nodes of right subtree are more than the root node

Both subtrees of each node are also BSTs i.e. they have the above two properties