ណែនាំអោយស្គាល់វង្វិលជុំ

Loop of Java

I. *ដូចម្តេចទៅដែលហៅ ថា* Loop?

Loop *សំដៅលើវង្វិលជុំដែលធ្វើការងារម្តងហើយ ម្តងទៀត រហូតដល់វា ជួបលក្ខណ្ឌ ណា មួយ ដែលពិតទើបវាបញ្ចប់។ ដើម្បីអាចអោយ* Loop *មួយវង្វិលជុំបានអាស្រ័យលើតំលៃ ៣ គឺ៖*

- Initialize *សំដៅលើការផ្តល់តំលៃដំបូងទៅអោយ* Loop(0, 1, 2, ….) *។*
- Condition: *សំដៅលើការកំណត់តំលៃចុងក្រោយដើម្បី* Loop *បញ្ចប់*(i>=10, i<=10,….)*។*
- Step: *សំដៅលើជំហានរបស់* Loop *ដែលត្រូវដំណើរការដូចជា៖* i++, i-- , i=i+2,i=i+3, i=i-2, i=i-3,….*។*

II. *ប្រភេទនៃ* Loop

Loop *របស់* java *ត្រូវបានគេបែងចែកជា ៤ប្រភេទ ដូចជា៖*

1) For Loop: *គឺជាប្រភេទ* Loop *ដែលធ្វើការត្រូវតែត្រួតពិនិត្យនូវលក្ខណ្ឌ ជាមុនសិន។*

ឧទាហរណ៍ ១៖

```
2  import java.util.*;
3  public class LoopSt {
4   public static void main (String[] args) {
5     int i;
6     System.out.println ("For Loop Statement 1");
7     for(i=1;i<=10;i++)
8     {
9      System.out.print (i+ "   ");
10    }
11   System.out.println ("\nFor Loop Statement 2");
12    for(i=10;i>=1;i--)
13    {
14     System.out.print (i+ "   ");
15    }
16
17
18  }
```

លទ្ធផលទទួលបាន៖

```
General Output
--------------------Configuration: <Default>--------------------
For Loop Statement 1
1   2   3   4   5   6   7   8   9   10
For Loop Statement 2
10   9   8   7   6   5   4   3   2   1
Process completed.
```

ឧទាហរណ៍ ២៖

Start Page | LoopSt.java *

```
1  import java.util.*;
2  public class LoopSt {
3   public static void main (String[] args) {
4      int n,op,i;
5      String st;
6      Scanner objin=new Scanner(System.in);
7     do{
8      System.out.println ("1. Loop1");
9      System.out.println ("2. Loop2");
10     System.out.println ("3. Loop3");
11     System.out.println ("4. Loop4");
12     System.out.println ("5. Loop5");
13     System.out.println ("6. Loop6");
14    System.out.println ("Choose One=");
15    op=objin.nextInt();
16    System.out.println ("Input Number of Loop=");
17    n=objin.nextInt();
18     switch(op)
19     { case 1:{
20           for(i=2;i<=n;i=i+2)
21           {
22             System.out.print(i + "   ");
23           }
24        }break;
25        case 2:{
26           for(i=2;i<=n;i=i+3)
27           {
28             System.out.print(i + "   ");
29           }
30        }break;
31        case 3:{
32           for(i=n;i>=n;i=i-2)
33           {
34             System.out.print(i + "   ");
35           }
36        }break;
37      case 4:{
38           for(i=n;i>=n;i=i-3)
39           {
40             System.out.print(i + "   ");
41           }
42        }break;
43     case 5:{
44           for(i=n;i>=n;i=i-1)
45           {
46             System.out.print(i + "   ");
47           }
48        }break;
49
50     }//End Switch
51     System.out.println ("\nPress Yes to Continue....");
52     st=objin.next();
53  }while(st.equals("yes"));
54  }
55 }
```

```
General Output
--------------------Configuration:
1. Loop1
2. Loop2
3. Loop3
4. Loop4
5. Loop5
6. Loop6
Choose One=
1
Input Number of Loop=
20
2   4   6   8   10   12   14   16   18   20

Process interrupted by user.
```

2) While Loop: *គឺជាប្រភេទ* Loop *ដែលធ្វើការត្រូវតែត្រួតពិនិត្យនូវលក្ខណ្ឌ ជាមុន សិន តែគ្រាន់តែទីតាំងនៃតំលៃ ទាំង ៣ត្រូវនៅផ្សេងៗគ្នា។*

ឧទាហរណ៏ ៖

Start Page | LoopSt.java ×

```
1  import java.util.*;
2  public class LoopSt {
3   public static void main (String[] args) {
4     int i;
5     System.out.println ("Form Incremental Loop");
6     i=1; //Initialize
7     while(i<=10) //Condition
8     {
9       System.out.print(i + "    ");
10      i++; //Step
11    }
12    System.out.println ("\nForm Decremental Loop");
13     i=10; //Initialize
14    while(i>=1) //Condition
15    {
16      System.out.print(i + "    ");
17      i--; //Step
18    }
19
20
21  }
22 }
```

លទ្ធផលទទួលបាន៖

General Output

```
--------------------Configuration: <Default>--------
Form Incremental Loop
1    2    3    4    5    6    7    8    9    10
Form Decremental Loop
10    9    8    7    6    5    4    3    2    1
Process completed.
```

3) Do ……while Loop: *គឺជាប្រភេទ* Loop *ដែលធ្វើការត្រូវតែបង្ហាញលទ្ធផល ម្តង់ ហើយទើបវាត្រួតពិនិត្យនូវ លក្ខណ្ឌ ជាក្រោយ និងតំលៃទាំង ៣ត្រូវនៅ ផ្សេងៗ គ្នា។*

ឧទាហរណ៏៖

Start Page | LoopSt.java * ×

```
1  import java.util.*;
2  public class LoopSt {
3   public static void main (String[] args) {
4     int i;
5     System.out.println ("Form Incremental Loop");
6     i=1; //Initialize
7     do{
8       System.out.print(i + "    ");
9       i++; //Step
10    }while(i<=10); //Condition
11    System.out.println ("\nForm Decremental Loop");
12     i=10; //Initialize
13
14    do {
15       System.out.print(i + "    ");
16       i--; //Step
17    }while(i>=1);//Condition
18  }
19 }
```

លំហាត់អនុវត្តន៏(កែកូដ)

Start Page | LoopSt.java

```
import java.util.*;
public class LoopSt {
 public static void main (String[] args) {
   double sum;
   int n,i;
   String op,st;
   Scanner objin=new Scanner(System.in);
 do{
   System.out.println ("A. Sum Loop1");
   System.out.println ("B. Sum Loop2");
   System.out.println ("C. Sum Loop3");
   System.out.println ("D. Sum Loop4");
   System.out.println ("E. Sum Loop5");
   System.out.println ("F. Sum Loop6");
   System.out.println ("Choose One(A-F):");
   op=objin.next();
   System.out.println ("Input Number of Loop:");
   n=objin.nextInt();
   switch(op)
   {
    case "A":
    case "a":{
             sum=0.0;
             for(i=1;i<n;i++)
             {
                 sum=sum+i;
             }
             System.out.println ("Sum of Loop1=" + sum);
         }break;
    case "B":
    case "b":{
             sum=0.0;
             for(i=1;i<n;i++)
             {
                 sum=sum+Math.sqrt(i);
             }
             System.out.println ("Sum of Loop2=" + sum);
         }break;
    case "C":
    case "c":{
             sum=0.0;
             for(i=1;i<n;i++)
             {
                 sum=sum+Math.pow(i,3);
             }
             System.out.println ("Sum of Loop3=" + sum);
         }break;
    case "D":
    case "d":{
             sum=0.0;
             for(i=1;i<n;i++)
             {
                 sum=sum+Math.sin(i);
             }
             System.out.println ("Sum of Loop4=" + sum);
         }break;
    case "e":
    case "E":{
             sum=0.0;
             for(i=1;i<n;i++)
             {
                 sum=sum+Math.log(i);
             }
             System.out.println ("Sum of Loop5=" + sum);
         }break;
   }
   System.out.println ("Press Yes to Continue....!");
   st=objin.next();
 }while(st.equals("yes"));


 }
}
```

4) For Each Loop: *គឺជាប្រភេទ* Loop *ដែលប្រើប្រាស់សំរាប់ទាញយកទិន្នន័យចេញពី សំនុំដូចជា* Array, Collection, File, Database,...។

ឧទាហរណ៍៖

Start Page | LoopSt.java *

```
1  import java.util.*;
2  public class LoopSt {
3   public static void main (String[] args) {
4        int [] numbers = {10, 20, 30, 40, 50};
5
6        for(int x : numbers ) {
7           System.out.print( x );
8           System.out.print(",");
9        }
10       System.out.print("\n");
11       String [] names = {"James", "Larry", "Tom", "Lacy"};
12
13       for( String name : names ) {
14          System.out.print( name );
15          System.out.print(",");
16       }
17    }
18 }
```

ឧទាហរណ៍១៖

```
1  /* Program: Random number generator
2   * Written by: Chaitanya from beginnersbook.com
3   * Input: None
4   * Output:Random number between o and 200*/
5  import java.util.*;
6  class GenerateRandomNumber {
7     public static void main(String[] args) {
8        int counter;
9        Random rnum = new Random();
10       /* Below code would generate 5 random numbers
11        * between 0 and 200.
12        */
13       System.out.println("Random Numbers:");
14       System.out.println("***************");
15       for (counter = 1; counter <= 20; counter++) {
16          System.out.println(rnum.nextInt(200));
17       }
18    }
19 }
```

ឧទាហរណ៍២៖

Start Page | LoopSt.java

```
import java.util.Scanner;
class LoopSt
{
   public static void main(String args[])
   {
    int temp;
    boolean isPrime=true;
    Scanner scan= new Scanner(System.in);
    System.out.println("Enter any number:");
    //capture the input in an integer
    int num=scan.nextInt();
        scan.close();
    for(int i=2;i<=num/2;i++)
    {
           temp=num%i;
       if(temp==0)
       {
          isPrime=false;
          break;
       }
    }
    //If isPrime is true then the number is prime else not
    if(isPrime)
       System.out.println(num + " is a Prime Number");
    else
       System.out.println(num + " is not a Prime Number");
   }
}
```

ឧទាហរណ៍៣៖

Start Page | LoopSt.java

```
/* Program: It Prints Floyd's triangle based on user inputs
 * Written by: Chaitanya from beginnersbook.com
 * Input: Number of rows
 * output: floyd's triangle*/
import java.util.Scanner;
class LoopSt
{
    public static void main(String args[])
    {
       int rows, number = 1, counter, j;
       //To get the user's input
       Scanner input = new Scanner(System.in);
       System.out.println("Enter the number of rows for floyd's triangle:");
       //Copying user input into an integer variable named rows
       rows = input.nextInt();
       System.out.println("Floyd's triangle");
       System.out.println("****************");
       for ( counter = 1 ; counter <= rows ; counter++ )
       {
           for ( j = 1 ; j <= counter ; j++ )
           {
                System.out.print(number+" ");
                //Incrementing the number value
                number++;
           }
           //For new line
           System.out.println();
       }
   }
}
```

លទ្ធផលទទួលបាន៖

```
General Output
--------------------Configuration: <Default>--------------------
Enter the number of rows for floyd's triangle:
5
Floyd's triangle
****************
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```

ឧទាហរណ៍ទី៤៖

Start Page | LoopSt.java

```
1  import java.util.Scanner;
2  class LoopSt
3  {
4     public static void main(String[ ] arg)
5     {
6      boolean isVowel=false;;
7      Scanner scanner=new Scanner(System.in);
8      System.out.println("Enter a character : ");
9      char ch=scanner.next().charAt(0);
10     scanner.close();
11     switch(ch)
12     {
13        case 'a' :
14        case 'e' :
15            case 'i' :
16        case 'o' :
17        case 'u' :
18        case 'A' :
19        case 'E' :
20        case 'I' :
21        case 'O' :
22        case 'U' : isVowel = true;
23     }
24     if(isVowel == true) {
25        System.out.println(ch+" is  a Vowel");
26     }
27     else {
28        if((ch>='a'&&ch<='z')||(ch>='A'&&ch<='Z'))
29         System.out.println(ch+" is a Consonant");
30        else
31         System.out.println("Input is not an alphabet");
32         }
33    }
34 }
```

លទ្ធផលទទួលបាន៖

```
General Output
--------------------Configuration: <Default>--------------------
Enter a character :
ETEC
E is  a Vowel

Process completed.
```

ឧទាហរណ៍ទី៖

```java
import java.util.Scanner;
class LoopSt
{
  public static void main(String args[])
  {
    Scanner input = new Scanner( System.in );
    System.out.print("Enter a decimal number : ");
    int num =input.nextInt();
    /* Method 1:
     * Using predefined method toOctalString(int)
     * Pass the decimal number to this method and
     * it would return the equivalent octal number
     */
    String octalString = Integer.toOctalString(num);
    System.out.println("Method 1: Decimal to octal: " + octalString);
    /* Method 2:
     * Writing your own logic: Here we will write
     * our own logic for decimal to octal conversion
     */
    // For storing remainder
    int rem;

    // For storing result
    String str="";

    // Digits in Octal number system
    char dig[]={'0','1','2','3','4','5','6','7'};
    while(num>0)
    {
       rem=num%8;
       str=dig[rem]+str;
       num=num/8;
    }
    System.out.println("Method 2: Decimal to octal: "+str);
  }
}
```

លទ្ធផលទទួលបាន៖

```
General Output
--------------------Configuration: <Default>--------------------
Enter a decimal number : 150
Method 1: Decimal to octal: 226
Method 2: Decimal to octal: 226

Process completed.
```

ឧទាហរណ៍ទី៖

Start Page | LoopSt.java* ×

```java
import java.util.Scanner;
class loopSt
{
   public static void main(String args[])
   {
     Scanner input = new Scanner( System.in );
     System.out.print("Enter a decimal number : ");
     int num =input.nextInt();
     // For storing remainder
     int rem;

     // For storing result
     String str2="";

     // Digits in hexadecimal number system
     char hex[]={'0','1','2','3','4','5','6','7','8','9','A','B','C','D','E','F'};

     while(num>0)
     {
       rem=num%16;
       str2=hex[rem]+str2;
       num=num/16;
     }
     System.out.println("Method 2: Decimal to hexadecimal: "+str2);
  }
}
```

ណែនាំអោយស្គាល់ Function

Function in Java

III. ដូចម្តេចទៅដែលហៅថា Function ?

Function គឺជាវិធីសាស្ត្រដោះស្រាយបញ្ហាដោយបែងចែកការដោះស្រាយទៅតាមផ្នែក ឬ Block នីមួយៗច្បាស់លាស់។ ផលប្រយោជន៍នៃការប្រើប្រាស់នូវ Function ដូចជា៖

- ងាយស្រួលស្វែងរក កូដ Error
- ងាយស្រួលកែកូដ នូវ កូដ Error
- កាត់បន្ថយការសរសេរកូដច្រំដែរបានច្រើន -ល-។

ប្រភេទនៃ Function គេបែងចែកជា ពីរប្រភេទ៖

១) Non Return Function: គឺជាប្រភេទនៃ Function ដែលដោះស្រាយបញ្ហាបញ្ចប់រួច មិនបោះលទ្ធផលទៅក្រៅខ្លួនទេ។ ការបង្កើតនូវ return function ត្រូវប្រើប្រាស់នូវ Keyword void ដើម្បីបង្កើតវាឡើង។

ឧទាហរណ៍ ១៖

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
    //Non Return function with no Parameter
 void Sum1()
 {
    int x,y;
    x=100;
    y=200;
    System.out.println ("Result of X+Y=" + (x+y));
 }
   //Non Return function with paramter 2
 void Sum2(int x,int y)
 {
    System.out.println ("Result of X+Y=" + (x+y));
 }

    public FunctionDemo() {
        //Calling function
        Sum1();
        Sum2(100,400);
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```


H/P: 096 226 888 4/ 077 358884 Email: eteccenter@yahoo.com

២). Return function: *គឺជាប្រភេទ* Function *ដែលក្រោយពីការដោះស្រាយបញ្ហាចប់សព្វគ្រប់ត្រូវតែបោះលទ្ធផលចេញទៅក្រៅ* function *វិញតាមរយៈ* Keyword return*។*

ឧទាហរណ៍ៈ

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
    //Return function with no Parameter
 int Sum1()
 {
    int x,y;
    x=100;
    y=200;
   return (x+y);
 }
   // Return function with paramter 2
int Sum2(int x,int y)
 {
      return (x+y);
 }
 // Return function with paramter 2

double  Sum3(double x,double y,double z)
 {
      return (x+y+z);
 }
    public FunctionDemo() {
        //Calling function
        System.out.println("Calling function Sum1=" + Sum1());
        System.out.println("Calling function Sum2=" + Sum2(100,400));
        System.out.println("Calling function Sum2=" + Sum3(45.9,25.6,36.8));
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

IV. *ការហៅ* function *បន្តាក់តគ្នា*

ចំពោះការហៅ Function *បន្តាក់គ្នាសំដៅលើអ្នកអាចហៅ* Function *បន្តគ្នាពីក្នុង* Block *មួយទៅកាន់* Block *ផ្សេងៗគ្នាទៀត។*

ឧទាហរណ៍៖

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
   // Return function with paramter 2
int Sum2(int x,int y)
 {
      return (x+y);
 }
 // Return function with paramter 2
int Sum3(int a,int b,int c,int d)
{
    return Sum2(a,b)+Sum2(c,d);
}
int Sum4(int a,int b,int c)
{
    return Sum2(a,b)+c;
}
    public FunctionDemo() {
        //Calling function
        System.out.println("Calling function Sum2=" + Sum2(23,5));
        System.out.println("Calling function Sum3=" + Sum3(100,400,6,8));
        System.out.println("Calling function Sum4=" + Sum4(45,78,10));
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លំហាត់អនុវត្តន៏

១)

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
  void ReversString()
  {
    String original, reverse = "";
      Scanner in = new Scanner(System.in);

      System.out.println("Enter a string to reverse");
      original = in.nextLine();

      int length = original.length();

      for ( int i = length - 1 ; i >= 0 ; i-- )
         reverse = reverse + original.charAt(i);

      System.out.println("Reverse of entered string is: "+reverse);
  }


    public FunctionDemo() {
        //Calling function
        ReversString();
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លទ្ធផលទទួលបាន៖

General Output

```
--------------------Configuration: <Default>--------------------
Enter a string to reverse
ETEC
Reverse of entered string is: CETE

Process completed.
```

៦)

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
  void CheckDate()
  {
 int day, month, year;
      int second, minute, hour;
      GregorianCalendar date = new GregorianCalendar();

      day = date.get(Calendar.DAY_OF_MONTH);
      month = date.get(Calendar.MONTH);
      year = date.get(Calendar.YEAR);

      second = date.get(Calendar.SECOND);
      minute = date.get(Calendar.MINUTE);
      hour = date.get(Calendar.HOUR);

      System.out.println("Current date is  "+day+"/"+(month+1)+"/"+year);
      System.out.println("Current time is  "+hour+" : "+minute+" : "+second);

  }


    public FunctionDemo() {
        //Calling function
        CheckDate();
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លទ្ធផលទទួលបាន៖

General Output

```
--------------------Configuration: <Default>-----
Current date is  29/6/2018
Current time is  8 : 4 : 13

Process completed.
```

៧)

FunctionDemo.java *

```
import java.util.*;
import java.io.*;
public class FunctionDemo {
  void CheckNotepad()
  {  Runtime rs = Runtime.getRuntime();
    try {
      rs.exec("notepad");
    }
    catch (IOException e) {
      System.out.println(e);
    }
  }
    public FunctionDemo() {
        //Calling function
       CheckNotepad();
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លំហាត់អនុវត្តន៏

១) ចូរសរសេរកូដបង្កើតនូវ Function សំរាប់អោយគេអាចបំលែង ពី Decimal Number អោយទៅជា Binary Number ?

២) ចូរសរសេរកូដបង្កើតនូវ Function សំរាប់អោយគេអាចបំលែង ពី Binary Number អោយទៅជា Decimal Number ?

៣) គេមានកូដដូចខាងក្រោមចូរបំលែងកូដទាំងនោះទៅជា Function?

A).

Example 1: Count Number of Digits in an Integer using while loop

```
public class NumberDigits {

     public static void main(String[] args) {

          int count = 0, num = 3452;

          while(num != 0)
          {
               // num = num/10
               num /= 10;
               ++count;
          }

          System.out.println("Number of digits: " + count);
     }
}
```

B).

```
public class Pattern {

     public static void main(String[] args) {
          int rows = 5, k = 0, count = 0, count1 = 0;

          for(int i = 1; i <= rows; ++i) {
               for(int space = 1; space <= rows - i; ++space) {
                    System.out.print("   ");
                    ++count;
               }

               while(k != 2 * i - 1) {
                    if (count <= rows - 1) {
                         System.out.print((i + k) + " ");
                         ++count;
                    }
                    else {
                         ++count1;
                         System.out.print((i + k - 2 * count1) + " ");
                    }

                    ++k;
               }
               count1 = count = k = 0;

               System.out.println();
          }
     }
}
```

https://www.programiz.com/java-programming/examples/pyramid-pattern

ណែនាំអោយស្គាល់ Function

Function in Java

V. ដូចម្តេចទៅដែលហៅថា Function ?

Function គឺជាវិធីសាស្ត្រដោះស្រាយបញ្ហាដោយបែងចែកការដោះស្រាយទៅតាមផ្នែក ឬ Block នីមួយៗច្បាស់លាស់។ ផលប្រយោជន៍នៃការប្រើប្រាស់នូវ Function ដូចជា៖

- ងាយស្រួលស្វែងរក កូដ Error
- ងាយស្រួលកែកូដ នូវ កូដ Error
- កាត់បន្ថយការសរសេរកូដច្រំដែរបានច្រើន -ល-។

ប្រភេទនៃ Function គេបែងចែកជា ពីរប្រភេទ៖

១) Non Return Function: គឺជាប្រភេទនៃ Function ដែលដោះស្រាយបញ្ហាបញ្ចប់រួច មិនបោះលទ្ធផលទៅក្រៅខ្លួនទេ។ ការបង្កើតនូវ return function ត្រូវប្រើប្រាស់នូវ Keyword void ដើម្បីបង្កើតវាឡើង។

ឧទាហរណ៍ ១៖

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
    //Non Return function with no Parameter
 void Sum1()
 {
    int x,y;
    x=100;
    y=200;
    System.out.println ("Result of X+Y=" + (x+y));
 }
   //Non Return function with paramter 2
 void Sum2(int x,int y)
 {
    System.out.println ("Result of X+Y=" + (x+y));
 }

    public FunctionDemo() {
        //Calling function
        Sum1();
        Sum2(100,400);
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```


H/P: 096 226 888 4/ 077 358884 Email: eteccenter@yahoo.com

២). Return function: គឺជាប្រភេទ Function ដែលក្រោយពីការដោះស្រាយបញ្ហាចប់សព្វគ្រប់ត្រូវតែបោះលទ្ធផលចេញទៅក្រៅ function វិញតាមរយៈ Keyword return។

ឧទាហរណ៍ៈ

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
    //Return function with no Parameter
 int Sum1()
 {
    int x,y;
    x=100;
    y=200;
   return (x+y);
 }
   // Return function with paramter 2
int Sum2(int x,int y)
 {
      return (x+y);
 }
 // Return function with paramter 2

double  Sum3(double x,double y,double z)
 {
      return (x+y+z);
 }
    public FunctionDemo() {
        //Calling function
        System.out.println("Calling function Sum1=" + Sum1());
        System.out.println("Calling function Sum2=" + Sum2(100,400));
        System.out.println("Calling function Sum2=" + Sum3(45.9,25.6,36.8));
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

VI. ការហៅ function បន្តាក់តគ្នា

ចំពោះការហៅ Function បន្តាក់គ្នាសំដៅលើអ្នកអាចហៅ Function បន្តគ្នាពីក្នុង Block មួយទៅកាន់ Block ផ្សេងៗគ្នាទៀតៗ

ឧទាហរណ៍៖

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
   // Return function with paramter 2
int Sum2(int x,int y)
 {
      return (x+y);
 }
 // Return function with paramter 2
int Sum3(int a,int b,int c,int d)
{
    return Sum2(a,b)+Sum2(c,d);
}
int Sum4(int a,int b,int c)
{
    return Sum2(a,b)+c;
}
    public FunctionDemo() {
        //Calling function
        System.out.println("Calling function Sum2=" + Sum2(23,5));
        System.out.println("Calling function Sum3=" + Sum3(100,400,6,8));
        System.out.println("Calling function Sum4=" + Sum4(45,78,10));
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លំហាត់អនុវត្តន៏

១)

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
  void ReversString()
  {
    String original, reverse = "";
      Scanner in = new Scanner(System.in);

      System.out.println("Enter a string to reverse");
      original = in.nextLine();

      int length = original.length();

      for ( int i = length - 1 ; i >= 0 ; i-- )
         reverse = reverse + original.charAt(i);

      System.out.println("Reverse of entered string is: "+reverse);
  }


    public FunctionDemo() {
        //Calling function
        ReversString();
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លទ្ធផលទទួលបាន៖

General Output

```
--------------------Configuration: <Default>--------------------
Enter a string to reverse
ETEC
Reverse of entered string is: CETE

Process completed.
```

៦)

FunctionDemo.java

```
import java.util.*;
public class FunctionDemo {
  void CheckDate()
  {
 int day, month, year;
      int second, minute, hour;
      GregorianCalendar date = new GregorianCalendar();

      day = date.get(Calendar.DAY_OF_MONTH);
      month = date.get(Calendar.MONTH);
      year = date.get(Calendar.YEAR);

      second = date.get(Calendar.SECOND);
      minute = date.get(Calendar.MINUTE);
      hour = date.get(Calendar.HOUR);

      System.out.println("Current date is  "+day+"/"+(month+1)+"/"+year);
      System.out.println("Current time is  "+hour+" : "+minute+" : "+second);

  }


    public FunctionDemo() {
        //Calling function
        CheckDate();
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លទ្ធផលទទួលបាន៖

General Output

```
--------------------Configuration: <Default>-----
Current date is  29/6/2018
Current time is  8 : 4 : 13

Process completed.
```

៧)

FunctionDemo.java *

```
import java.util.*;
import java.io.*;
public class FunctionDemo {
  void CheckNotepad()
  {  Runtime rs = Runtime.getRuntime();
    try {
      rs.exec("notepad");
    }
    catch (IOException e) {
      System.out.println(e);
    }
  }
    public FunctionDemo() {
        //Calling function
       CheckNotepad();
    }
    public static void main (String[] args) {
      new FunctionDemo();
    }

}
```

លំហាត់អនុវត្តន៏

១) ចូរសរសេរកូដបង្កើតនូវ Function សំរាប់អោយគេអាចបំលែង ពី Decimal Number អោយទៅជា Binary Number ?

២) ចូរសរសេរកូដបង្កើតនូវ Function សំរាប់អោយគេអាចបំលែង ពី Binary Number អោយទៅជា Decimal Number ?

៣) គេមានកូដដូចខាងក្រោមចូរបំលែងកូដទាំងនោះទៅជា Function?

A).

Example 1: Count Number of Digits in an Integer using while loop

```
public class NumberDigits {

     public static void main(String[] args) {

          int count = 0, num = 3452;

          while(num != 0)
          {
               // num = num/10
               num /= 10;
               ++count;
          }

          System.out.println("Number of digits: " + count);
     }
}
```

B).

```
public class Pattern {

     public static void main(String[] args) {
          int rows = 5, k = 0, count = 0, count1 = 0;

          for(int i = 1; i <= rows; ++i) {
               for(int space = 1; space <= rows - i; ++space) {
                    System.out.print("   ");
                    ++count;
               }

               while(k != 2 * i - 1) {
                    if (count <= rows - 1) {
                         System.out.print((i + k) + " ");
                         ++count;
                    }
                    else {
                         ++count1;
                         System.out.print((i + k - 2 * count1) + " ");
                    }

                    ++k;
               }
               count1 = count = k = 0;

               System.out.println();
          }
     }
}
```

https://www.programiz.com/java-programming/examples/pyramid-pattern