

## Fundamentals of Programming II Lab 02

```
public class IntegerExample01 {
    public static void main(String[] args) {
        String str = new String("10");
        int i = Integer.parseInt(str);
        System.out.println(i);

        Integer intObj=new Integer(100);
        byte b = intObj.byteValue();
        System.out.println(b);

        short s = intObj.shortValue();
        System.out.println(s);

        int x = intObj.intValue();
        System.out.println(x);

        float f = intObj.floatValue();
        System.out.println(f);

        double d = intObj.doubleValue();
        System.out.println(d);

        System.out.println(intObj);
        String st = intObj.toString();
        System.out.println("Integer converted to String as " + st);

        String strBinaryNumber = "111000";
        int decimalNumber = Integer.parseInt(strBinaryNumber,2);
        System.out.println("Binary number converted to decimal number");
        System.out.println("Decimal number is : " + decimalNumber);

    }
}
```

```
public class MoreStrings01 {
    public static void main(String[] args) {
        String st01="String to be changed";
        System.out.println(st01);
        String st02;
        st02=st01.toUpperCase();
        System.out.println(st02);
    }
}
```

```
public class MoreStrings02 {  
    public static void main(String[] args) {  
        String st01="String to be changed";  
        System.out.println(st01);  
        String st02;  
        st02=st01.toUpperCase();  
        System.out.println(st02);  
        String st03=st02.toLowerCase();  
        System.out.println(st03);  
    }  
}
```

```
public class MoreStrings03 {  
    public static void main(String[] args) {  
        int result;  
        String st01="Ape";  
        String st02="App";  
        result=st01.compareTo(st02);  
        if(result<0)  
            System.out.println("\"Ape\" is less than \"App\"");  
        else if(result>0)  
            System.out.println("\"Ape\" is greater than \"App\"");  
        else  
            System.out.println("\"Ape\" equals to \"App\"");  
    }  
}
```

```
public class MoreStrings04 {  
    public static void main(String[] args) {  
        int result;  
        String st01="Ape";  
        String st02="App";  
        result=st01.compareTo(st02);  
        System.out.printf("\n Difference between \"Ape\" & \"App\" = %d\n",result);  
        System.out.printf("\nUnicode of %c = %d, and %c = %d, difference = %d\n"  
            , 'e',(int)'e','p',(int)'p',((int)'e'-(int)'p'));  
    }  
}
```

```
public class MoreStrings05 {  
    public static void main(String[] args) {  
        int result;  
        String st01="App";  
        String st02="app";  
        result=st01.compareTo(st02);  
    }  
}
```

```
System.out.printf("\ncompareTo(\"App\", \"app\")=%d", result);
result=st01.compareToIgnoreCase(st02);
System.out.printf("\ncompareToIgnoreCase(\"App\", \"app\")=%d\n", result);
}}
```

```
public class MoreStrings06 {
    public static void main(String[] args) {
        String email;
        Scanner sc=new Scanner(System.in);
        System.out.print("\nEnter Your email :");
        email=sc.next();
        int result;
        result=email.indexOf('@');
        System.out.printf("\n@ position is = %d\n", (result+1));
    }
}
```

```
public class MoreStrings07 {
    public static void main(String[] args) {
        String email;
        Scanner sc=new Scanner(System.in);
        System.out.print("\nEnter Your email :");
        email=sc.next();
        int result;
        result=email.indexOf('@');
        if(email.indexOf('@')>0)
            System.out.print("\nValid email address\n");
        else
            System.out.print("\ninValid email address\n");
    }
}
```

```
public class MoreStrings08 {
    public static void main(String[] args) {
        String email;
        Scanner sc=new Scanner(System.in);
        System.out.print("\nEnter Your email :");
        email=sc.next();
        if(email.indexOf(".com")>-1)
            System.out.print("\nValid email address\n");
        else if(email.indexOf(".com.eg")>-1)
            System.out.print("\nValid email address\n");
        else if(email.indexOf(".edu")>-1)
            System.out.print("\nValid email address\n");
        else if(email.indexOf(".edu.eg")>-1)
            System.out.print("\nValid email address\n");
        else
            System.out.print("\nInvalid email address\n");
    }
}
```

```
System.out.print("\nInvalid email address\n");  
}}
```

```
public class MoreStrings09 {  
    public static void main(String[] args) {  
        String email;  
        Scanner sc=new Scanner(System.in);  
        System.out.print("\nEnter Your email :");  
        email=sc.next();  
        if(email.indexOf(".com")>-1)  
            System.out.print("\nValid email address\n");  
        else if(email.indexOf(".edu")>-1)  
            System.out.print("\nValid email address\n");  
        else  
            System.out.print("\nInvalid email address\n");  
    }  
}
```

```
public class MoreStrings10 {  
    public static void main(String[] args) {  
        String email;  
        Scanner sc=new Scanner(System.in);  
        System.out.print("\nEnter Your email :");  
        email=sc.next();  
        int atspos=email.indexOf('@');  
        if(atspos>-1)  
        {  
            int result=email.indexOf(".com");  
            if(result>-1)  
                System.out.print("\nValid email address\n");  
            else  
                System.out.print("\nInvalid email address\n");  
        }  
        else  
            System.out.print("\nInvalid email address\n");  
    }  
}
```

```
public class MoreStrings11 {  
    public static void main(String[] args) {  
        String email;  
        Scanner sc=new Scanner(System.in);  
        System.out.print("\nEnter Your email :");  
        email=sc.next();  
        int atspos=email.indexOf('@');  
        if(atspos>-1)  
        {
```

```
int result=email.indexOf(".com",atspos);
if(result>-1)
    System.out.print("\nValid email address\n");
else
    System.out.print("\ninValid email address\n");
}
else
    System.out.print("\ninValid email address\n");
}
}
```

```
public class MoreStrings12 {
    public static void main(String[] args) {
        String email;
        Scanner sc=new Scanner(System.in);
        System.out.print("\nEnter Your email :");
        email=sc.next();
        int atspos=email.indexOf('@');
        if(atspos>-1)
        {
            if(email.endsWith(".com"))
                System.out.print("\nValid email address\n");
            else
                System.out.print("\ninValid email address\n");
        }
        else
            System.out.print("\ninValid email address\n");
    }
}
```

```
public class MoreStrings13 {
    public static void main(String[] args) {
        String email;
        System.out.print("\nEnter your email address(name@domain.type.country):");
        Scanner sc=new Scanner(System.in);
        email=sc.next();
        // checking
        int x1,x2,x3;
        x1=email.indexOf('@');
        if(x1<0)
        {
            System.out.print("\nInvlid format.");
            System.exit(0);
        }
        x2=email.indexOf('.',x1);
        if(x2<0)
```

```
{
    System.out.print("\nInvlid format.");
    System.exit(0);
}
x3=email.indexOf('.',x2+1);
String name,domain,type,country;
name=email.substring(0, x1);
System.out.printf("\nName =%s",name);
domain=email.substring(x1+1,x2);
System.out.printf("\nDomain =%s",domain);
if(x3>0)
{
    type=email.substring(x2+1,x3);
    country=email.substring(x3+1,email.length());
    System.out.printf("\nType =%s\nCountry =%s\n",type,country);
}
else
{
    type=email.substring(x2+1,email.length());
    System.out.printf("\nType= %s\n",type);
}
}
}
```

```
public class MoreStrings14 {
    public static void main(String[] args) {
ArrayList list01 = new ArrayList( );
        char ch;
        String st;
        int i;
        Scanner sc=new Scanner(System.in);
        do
        {
            System.out.print("\nEnter one of the following commands:");
            System.out.print("\nd: to display all items.");
            System.out.print("\na: to add new item.");
            System.out.print("\ne: to edit an item.");
            System.out.print("\nr: to remove an item.");
            System.out.print("\nq: to quit.\nYour entry :");
            st=sc.next();
            ch=st.charAt(0);
            Iterator iterator01 = list01.iterator( );
            switch(ch)
            {
                case 'd':
                    System.out.print("\n***** list *****\n");
                    iterator01=list01.iterator();
```

```
        while ( iterator01.hasNext( ) )
            System.out.println( iterator01.next( ) );
        System.out.print("\n*****\n");
        break;
    case 'a':
        st=sc.next();
        list01.add(st);
        break;
    case 'e':
        System.out.print("\nEnter the index of item to be edited :");
        i=sc.nextInt();
        System.out.print("\nEnter the new item :");
        st=sc.next();
        list01.set(i, st);
        break;
    case 'r':
        System.out.print("\nEnter the index of item to be deleted :");
        i=sc.nextInt();
        list01.remove(i);
        break;
    case 'q':
        System.out.print("\nBye.");
        break;
    default:
        System.out.print("\nInvalid input.");
        break;
    }
}while(ch!='q');
}
```

```
public class MoreStrings15 {
    public static void main(String[] args) {
        String old_mobile,new_mobile="";
        System.out.print("\nEnter Your old mobile number (10 digits):");
        Scanner sc=new Scanner(System.in);
        old_mobile=sc.next();
        old_mobile="*"+old_mobile;
        if(old_mobile.startsWith("*012"))
        {
            new_mobile=old_mobile.replace("*012", "0122");
        }
        else if(old_mobile.startsWith("*010"))
        {
            new_mobile=old_mobile.replace("*010", "0100");
        }
        else if(old_mobile.startsWith("*011"))
```

```
{
    new_mobile=old_mobile.replace("*011", "0111");
}
System.out.println("\nNew mobile number =" +new_mobile);

}
}
```

```
public class MoreStrings16 {
    public static void main(String[] args) {
        System.out.print("\nEnter your full name: ");
        Scanner sc=new Scanner(System.in);
        String full_name=sc.nextLine();
        String st;
        int x1=0,x2;
        while(true)
        {
            x2=full_name.indexOf(' ',x1);
            if(x2<0)
            {
                st=full_name.substring(x1,full_name.length());
                st.trim();
                System.out.println(st);
                break;
            }
            st=full_name.substring(x1,x2);
            st.trim();
            System.out.println(st);
            x1=x2+1;
        }
    }
}
```

```
public class JavaStringBufferExample01 {
    public static void main(String[] args) {
        StringBuffer sb1 = new StringBuffer();
        StringBuffer sb2 = new StringBuffer(10);
        StringBuffer sb3 = new StringBuffer("Hello World");
        System.out.println(sb3);

        StringBuffer sb4 = new StringBuffer("Hello World");
        System.out.println("Original Text : " + sb4);
        sb4.replace(0,5,"Hi");
        System.out.println("Replaced Text : " + sb4);

        StringBuffer sb5 = new StringBuffer("Java StringBuffer Reverse Example");
```

```
System.out.println("Original StringBuffer Content : " + sb5);
sb5.reverse();
System.out.println("Reversed StringBuffer Content : " + sb5);

StringBuffer sb6 = new StringBuffer("Hello World");
String strPart1 = sb6.substring(5);
System.out.println("Substring 1 : " + strPart1);
String strPart2 = sb6.substring(6,11);
System.out.println("Substring 2 : " + strPart2);
}
}
```

```
public class JavaStringBufferExample02{

    public static void main(String[] args) {
        boolean b = true;
        StringBuffer sb1 = new StringBuffer("BooelanAppended : ");
        sb1.append(b);
        System.out.println(sb1);

        char c = 'Y';
        StringBuffer sb2 = new StringBuffer("CharAppended : ");
        sb2.append(c);
        System.out.println(sb2);

        char[] c1 = new char[] {'Y','e','s'};
        StringBuffer sb3 = new StringBuffer("Character Array Appended : ");
        sb3.append(c1);
        System.out.println(sb3);

        double d = 1.0;
        StringBuffer sb4 = new StringBuffer("doubleAppended : ");
        sb4.append(d);
        System.out.println(sb4);

        float f = 1.0f;
        StringBuffer sb5 = new StringBuffer("floatAppended : ");
        sb5.append(f);
        System.out.println(sb5);

        int i = 1;
        StringBuffer sb6 = new StringBuffer("integerAppended : ");
        sb6.append(i);
        System.out.println(sb6);

        long l = 1;
        StringBuffer sb7 = new StringBuffer("longAppended : ");
```

```
sb7.append(l);
System.out.println(sb7);

Object obj = new String("Yes");
StringBuffer sb8 = new StringBuffer("ObjectAppended : ");
sb8.append(obj);
System.out.println(sb8);
String str = new String("Yes");
StringBuffer sb9 = new StringBuffer("StringAppended : ");
sb9.append(str);
System.out.println(sb9);
}
}
```

```
public class JavaStringBufferExample03{
    public static void main(String args[]){
        StringBuffer sb1 = new StringBuffer("This is the first line.");
        sb1.append("\n");
        sb1.append("This is second line.");
        System.out.println(sb1);

        StringBuffer ab2 = new StringBuffer("Hello World");
        ab2.delete(0,6);
        System.out.println(ab2);
        StringBuffer ab3 = new StringBuffer("Some Content");
        System.out.println(ab3);
        ab3.delete(0, ab3.length());
        System.out.println(ab3);
        StringBuffer ab4 = new StringBuffer("Hello World");
        ab4.deleteCharAt(0);
        System.out.println(ab4);

        StringBuffer sb5 = new StringBuffer("Hello World!");
        String str = sb5.toString();
        System.out.println("StringBuffer to String: " + str);

        int len = sb5.length();
        System.out.println("Length of a StringBuffer object is : " + len);

        StringBuffer sb6 = new StringBuffer("StringBuffer setLength method example");
        sb6.setLength(12);
        System.out.println("StringBuffer contents: " + sb6);
        sb6.setLength(0);
        System.out.println("StringBuffer contents deleted:" + sb6);

        StringBuffer sb7 = new StringBuffer("Hello World!");
        System.out.println("StringBuffer content: " + sb7);
    }
}
```

```
        sb7.delete(0, sb7.length());  
        System.out.println("StringBuffer content after reset:" + sb7);  
  
    }  
}
```

```
public class JavaStringBufferExample04{  
    public static void main(String[] args) {  
        boolean b = true;  
        StringBuffer sb1 = new StringBuffer("Hello World");  
        sb1.insert(6,b);  
        System.out.println(sb1);  
        char c = 'Y';  
        StringBuffer sb2 = new StringBuffer("Hello World");  
        sb2.insert(6,c);  
        System.out.println(sb2);  
        char[] c1 = new char[] {'Y','e','s'};  
        StringBuffer sb3 = new StringBuffer("Hello World");  
        sb3.insert(6,c1);  
        System.out.println(sb3);  
        double d = 1.0;  
        StringBuffer sb4 = new StringBuffer("Hello World");  
        sb4.insert(6,d);  
        System.out.println(sb4);  
        float f = 2.0f;  
        StringBuffer sb5 = new StringBuffer("Hello World");  
        sb5.insert(6,f);  
        System.out.println(sb5);  
        int i = 5;  
        StringBuffer sb6 = new StringBuffer("Hello World");  
        sb6.insert(6,i);  
        System.out.println(sb6);  
        long l = 10;  
        StringBuffer sb7 = new StringBuffer("Hello World");  
        sb7.insert(6,l);  
        System.out.println(sb7);  
        String str = "New";  
        StringBuffer sb9 = new StringBuffer("Hello World");  
        sb9.insert(6,str);  
        System.out.println(sb9);  
    }  
}
```

```
package myfourthjavaprogram;  
public class MyFourthJavaProgram {  
    public static void main(String[] args) {
```

```
int x= 10;

while( x < 20 ){
    System.out.print("value of x : " + x );
    x++;
    System.out.print("\n");
}

}
```

```
package myfifthjavaprogram;
public class MyFifthJavaProgram {
    public static void main(String[] args) {
        // TODO code application logic here
        int x= 10;

        do{
            System.out.print("value of x : " + x );
            x++;
            System.out.print("\n");
        }while( x < 20 );
    }
}
```

```
package my6thjavaprogram;
public class My6thJavaProgram {
    public static void main(String[] args) {
        for(int x = 10; x < 20; x = x+1){
            System.out.print("value of x : " + x );
            System.out.print("\n");
        }
    }
}
```

```
package my7thjavaprogram;
public class My7thJavaProgram {
    public static void main(String[] args) {
        int [] numbers = {10, 20, 30, 40, 50};

        for(int x : numbers ){
            System.out.print( x );
            System.out.print(",");
        }
    }
}
```

```
    }  
    System.out.print("\n");  
    String [] names ={"James", "Larry", "Tom", "Lacy"};  
    for( String name : names ) {  
        System.out.print( name );  
        System.out.print(",");  
    }  
}  
}
```

```
package my8thjavaprogram;  
public class My8thJavaProgram {  
    public static void main(String[] args) {  
        int [] numbers = {10, 20, 30, 40, 50};  
        for(int x : numbers ){  
            if( x == 30 ){  
                break;  
            }  
            System.out.print( x );  
            System.out.print("\n");  
        }  
    }  
}
```

```
package my9thjavaprogram;  
public class My9thJavaProgram {  
    public static void main(String[] args) {  
        int [] numbers = {10, 20, 30, 40, 50};  
  
        for(int x : numbers ){  
            if( x == 30 ){  
                continue;  
            }  
            System.out.print( x );  
            System.out.print("\n");  
        }  
    }  
}
```

```
package my10thjavaprogram;  
public class My10thJavaProgram {  
    public static void main(String[] args) {  
        int x = 10;  
        if( x < 20 ){  
            System.out.print("This is if statement");  
        }  
    }  
}
```

```
package myl1thjavaprogram;
public class Myl1thJavaProgram {
    public static void main(String[] args) {
        int x = 30;
        if( x == 10 ){
            System.out.print("Value of X is 10");
        }else if( x == 20 ){
            System.out.print("Value of X is 20");
        }else if( x == 30 ){
            System.out.print("Value of X is 30");
        }else{
            System.out.print("This is else statement");
        }
    }
}
```

```
package myl2thjavaprogram;
public class Myl2thJavaProgram {
    public static void main(String[] args) {
        int x = 30;
        int y = 10;

        if( x == 30 ){
            if( y == 10 ){
                System.out.print("X = 30 and Y = 10");
            }
        }
    }
}
```

```
package myl3thjavaprogram;
public class Myl3thJavaProgram {
    public static void main(String[] args) {
        char grade = args[0].charAt(0);

        switch(grade)
        {
            case 'A' :
                System.out.println("Excellent!");
                break;
            case 'B' :
                System.out.println("very good!");
                break;
            case 'C' :
                System.out.println("Well done");
                break;
            case 'D' :
```

```
        System.out.println("You passed");
    case 'F' :
        System.out.println("Better try again");
        break;
    default :
        System.out.println("Invalid grade");
    }
    System.out.println("Your grade is " + grade);
}
}
```

```
public class Loop01 {
    public static void main(String[] args) {
        for(int i=0, j=1, k=2 ; i<5 ; i++)
            System.out.println("i : " + i + ", j : " + j + ", k : " + k);
    }
}
```

```
public class Loop02 {
    public static void main (String[] args){
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter Number:");
        int as=sc.nextInt();
        System.out.println("Enter X:");
        int x= sc.nextInt();
        int y = 0;
        for(int i=0; i<= as ;i++){
            for(int j=1; j <= i ; j++){
                System.out.print(y + "\t");
                y = y + x;
            }
            System.out.println("");
        }
    }
}
```

```
public class Loop03 {
    public static void main(String[] args) {
        for(;;)
            System.out.println("Hello");
    }
}
```

```
public class Loop04{
    public static void main(String[] args) {
        System.out.print("Enter pyramid top (ex:5):");
        Scanner s= new Scanner(System.in);
        int top=s.nextInt();
        for(int i=1; i<= top ;i++){
            for(int j=0; j < i; j++){
                System.out.print("*");
            }
            //generate a new line
            System.out.println("");
        }
        //create second half of pyramid
        for(int i=top; i>0 ;i--){
            for(int j=0; j < i; j++){
                System.out.print("*");
            }
            //generate a new line
            System.out.println("");
        }
    }
}
```

```
public class Loop05{
    public static void main(String[] args) {
        //define limit
        int limit = 50;
        System.out.println("Printing Even numbers between 1 and " + limit);
        for(int i=1; i <= limit; i++){
            // if the number is divisible by 2 then it is even
            if( i % 2 == 0){
                System.out.print(i + " ");
            }
        }
    }
}
```

```
public class Loop06 {
    public static void main(String[] args) {
        //define limit
```

```
int limit = 100;
System.out.println("Prime numbers between 1 and " + limit);
//loop through the numbers one by one
for(int i=1; i < 100; i++){
    boolean isPrime = true;
    //check to see if the number is prime
    for(int j=2; j < i ; j++){
        if(i % j == 0){
            isPrime = false;
            break;
        }
    }
    // print the number
    if(isPrime)
        System.out.print(i + " ");
}
}
```

```
public class Loop07{
    public static void main(String[] args) {
        //generate upper half of the pyramid
        for(int i=5; i>0 ;i--){
            for(int j=0; j < i; j++){
                System.out.print("*");
            }
            //create a new line
            System.out.println("");
        }
        //generate bottom half of the pyramid
        for(int i=1; i<= 5 ;i++){
            for(int j=0; j < i; j++){
                System.out.print("*");
            }
            //create a new line
            System.out.println("");
        }
    }
}
```

```
public class Condition01{
    public static void main(String[] args) {
        //declare two numbers to compare
        int num1 = 324;
        int num2 = 234;
        System.out.print("Enter 1st number:");
        Scanner s= new Scanner (System.in);
        num1=s.nextInt();
        System.out.print("Enter 2nd number:");
        num2 =s.nextInt();
        if(num1 > num2){
            System.out.println(num1 + " is greater than " + num2);
        }
        else if(num1 < num2){
            System.out.println(num1 + " is less than " + num2);
        }
        else{
            System.out.println(num1 + " is equal to " + num2);
        }
    }
}
```

```
public class Condition02{
    public static void main(String[] args) {
        //year we want to check
        System.out.print("Enter a year for testing (ex: 2013):");
        Scanner s= new Scanner (System.in);
        int year=s.nextInt();
        //if year is divisible by 4, it is a leap year
        if((year % 400 == 0) || ((year % 4 == 0) && (year % 100 != 0)))
            System.out.println("Year " + year + " is a leap year");
        else
            System.out.println("Year " + year + " is not a leap year");
    }
}
```

```
public class Switch01 {
    public static void main(String[] args) {
        for(int i=0; i <= 3 ; i++)
        {
            switch(i)
            {
```

```
case 0:
    System.out.println("i is 0");
    break;
case 1:
    System.out.println("i is 1");
    break;
case 2:
    System.out.println("i is 2");
    break;
default:
    System.out.println("i is grater than 2");

    }
    }
}
```