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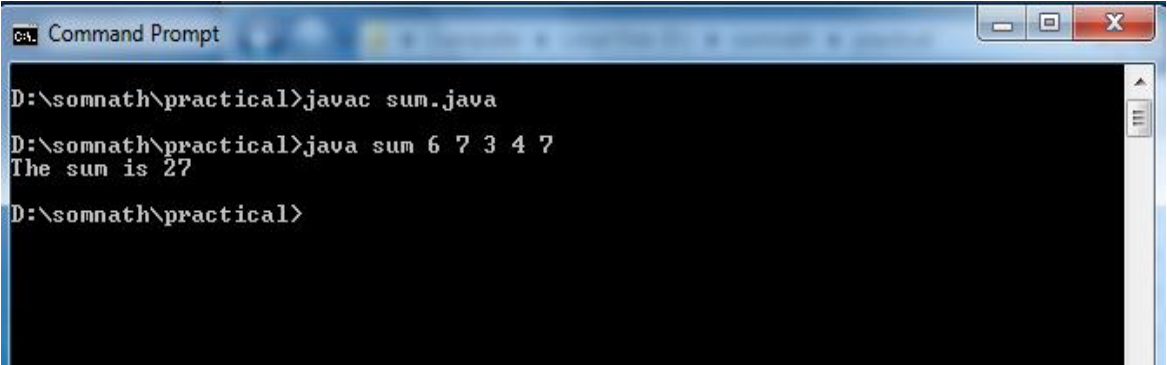
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- **To find the sum of any number of integers entered as command line arguments**

**PROGRAM CODE:**

```
public class sum {  
    public static void main( String args[] ) {  
        int num=0;  
        for(int i=0; i<args.length; i++){  
            num=num+ Integer.parseInt(args[i]);  
        }  
  
        System.out.println("The sum is " + num);  
    }  
}
```

- **OUTPUT:**



The screenshot shows a Windows Command Prompt window titled "C:\> Command Prompt". The command prompt is open at the directory "D:\somnath\practical". The user has entered the command "javac sum.java" to compile the program. The next command entered is "java sum 6 7 3 4 7", which runs the program with five command-line arguments. The output of the program is "The sum is 27". The prompt then returns to "D:\somnath\practical>".

```
C:\> Command Prompt  
  
D:\somnath\practical>javac sum.java  
D:\somnath\practical>java sum 6 7 3 4 7  
The sum is 27  
D:\somnath\practical>
```

**TEACHER SIGNATURE:**

- To find the factorial of a given number

**PROGRAM CODE:**

```
import java.util.Scanner;

class fact{

    public static void main(String args[]){

        int n,f=1,i;

        Scanner in= new Scanner (System.in);

        System.out.println("Enter any numbers: ");

        n= in.nextInt();

        for(i=1;i<=n;i++)

        {

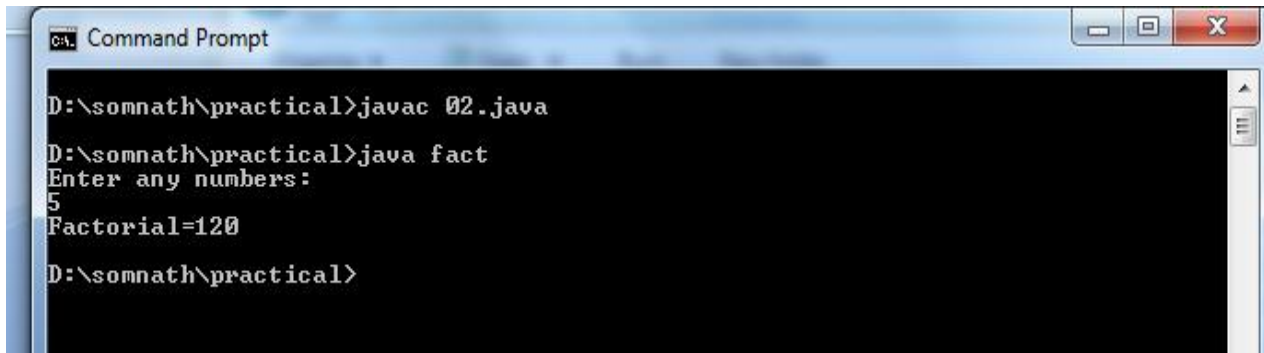
            f=f*i;

        }

        System.out.println("Factorial="+f);

    } }
```

**OUTPUT:**

A screenshot of a Windows Command Prompt window. The title bar reads "Command Prompt". The command prompt shows the following sequence of commands and output:  
D:\somnath\practical>javac 02.java  
D:\somnath\practical>java fact  
Enter any numbers:  
5  
Factorial=120  
D:\somnath\practical>  
The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

**TEACHER SIGNATURE:**

- To learn use of single dimensional array by defining the array dynamically

#### PROGRAM CODE:

```
import java.io.*;

class one_dimension_array {

public static void main (String args[]) throws IOException {

    InputStreamReader read=new InputStreamReader(System.in);

    BufferedReader in=new BufferedReader(read);

    int i,sum=0,n;

    System.out.println("Enter how many elements: ");

    n=Integer.parseInt(in.readLine());

    int a[]=new int[n];

    for(i=0;i<n;i++)

    {

        a[i]=Integer.parseInt(in.readLine());

    }

    for(i=0;i<n;i++)

    {

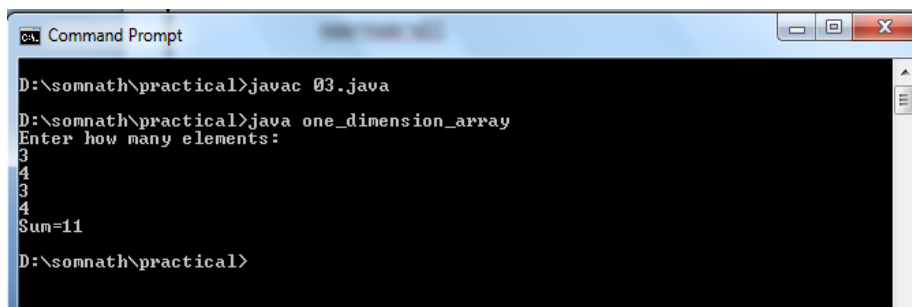
        sum=sum+a[i];

    }

    System.out.println("Sum="+sum);

    }}
```

#### OUTPUT:



```
ca: Command Prompt

D:\somnath\practical>javac 03.java
D:\somnath\practical>java one_dimension_array
Enter how many elements:
3
4
3
4
Sum=11
D:\somnath\practical>
```

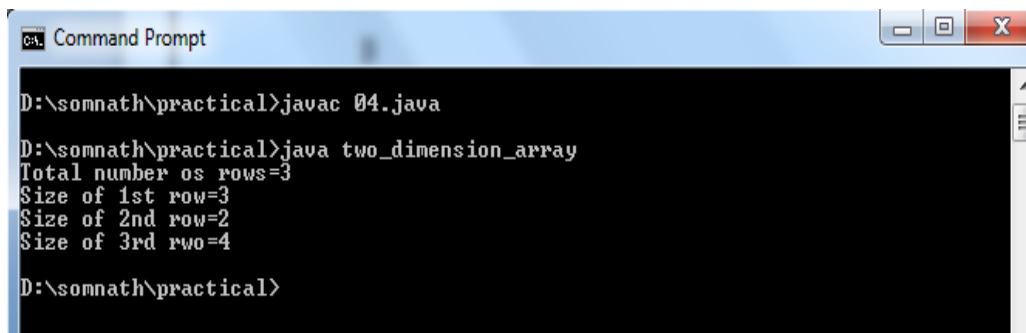
TEACHER SIGNATURE:

- To learn use of .length in case of a two dimensional array

**PROGRAM CODE:**

```
class two_dimension_array
{
    public static void main (String[] args)
    {
        int x[ ][ ]={{1,2,3},{4,5},{6,7,8,8}};
        int l1=x.length;
        int l2=x[0].length;
        int l3=x[1].length;
        int l4=x[2].length;
        System.out.println("Total number os rows="+l1);
        System.out.println("Size of 1st row="+l2);
        System.out.println("Size of 2nd row="+l3);
        System.out.println("Size of 3rd rwo="+l4);
    }
}
```

**OUTPUT:**



```
C:\> Command Prompt
D:\somnath\practical>javac 04.java
D:\somnath\practical>java two_dimension_array
Total number os rows=3
Size of 1st row=3
Size of 2nd row=2
Size of 3rd rwo=4
D:\somnath\practical>
```

**TEACHER SIGNATURE:**

- **To convert a decimal to binary number**

**PROGRAM CODE:**

```
import java.util.Scanner;

class Convert {

    public static void main(String args[]) {

        int n, count = 0, a;

        String x = "";

        Scanner s = new Scanner(System.in);

        System.out.print("Enter any decimal number:");

        n = s.nextInt();

        while(n > 0)

        {

            a = n % 2;

            x = x + "" + a;

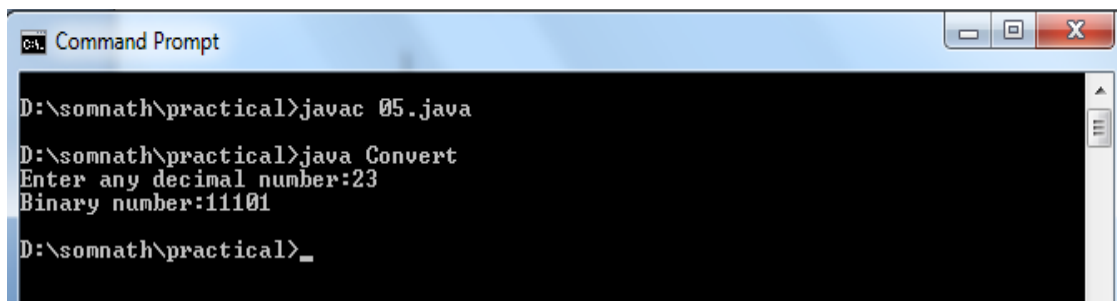
            n = n / 2;

        }

        System.out.println("Binary number:"+x);

    } }
```

**OUTPUT:**

A screenshot of a Windows Command Prompt window. The title bar reads "C:\ Command Prompt". The command history shows: "D:\somnath\practical>javac 05.java", "D:\somnath\practical>java Convert", "Enter any decimal number:23", and "Binary number:11101". The prompt "D:\somnath\practical>\_" is visible at the bottom.

```
C:\ Command Prompt

D:\somnath\practical>javac 05.java
D:\somnath\practical>java Convert
Enter any decimal number:23
Binary number:11101
D:\somnath\practical>_
```

**TEACHER SIGNATURE:**

- To check if a number is prime or not, by taking the number as input from the keyboard

**PROGRAM CODE:**

```
import java.util.Scanner;

class prime {

public static void main (String args[]) {

int flag=0,n;

Scanner in=new Scanner(System.in);

System.out.println("Enter a number: ");

n=in.nextInt();

for(int i=2;i<=n/2;i++)

{

if(n%i==0)

{

flag=1;

break;

}}

if(flag==1)

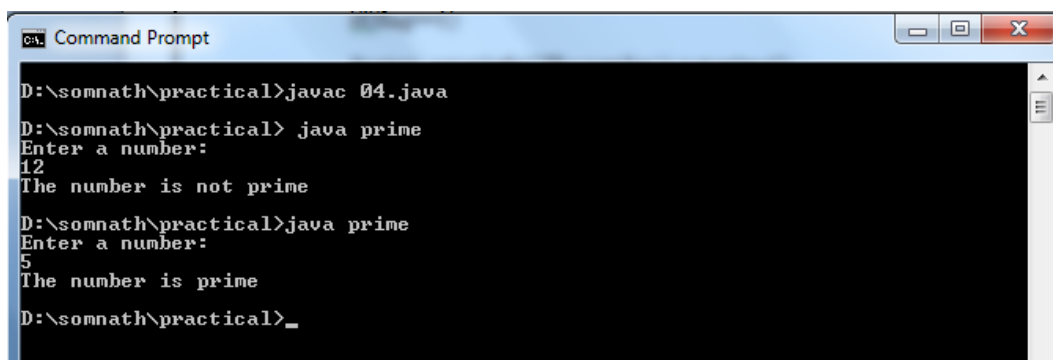
System.out.println("The number is not prime");

if(flag==0)

System.out.println("The number is prime");

}}
```

**OUTPUT:**

A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the following text:   
D:\somnath\practical>javac 04.java  
D:\somnath\practical> java prime  
Enter a number:  
12  
The number is not prime  
D:\somnath\practical>java prime  
Enter a number:  
5  
The number is prime  
D:\somnath\practical>\_

**TEACHER SIGNATURE:**

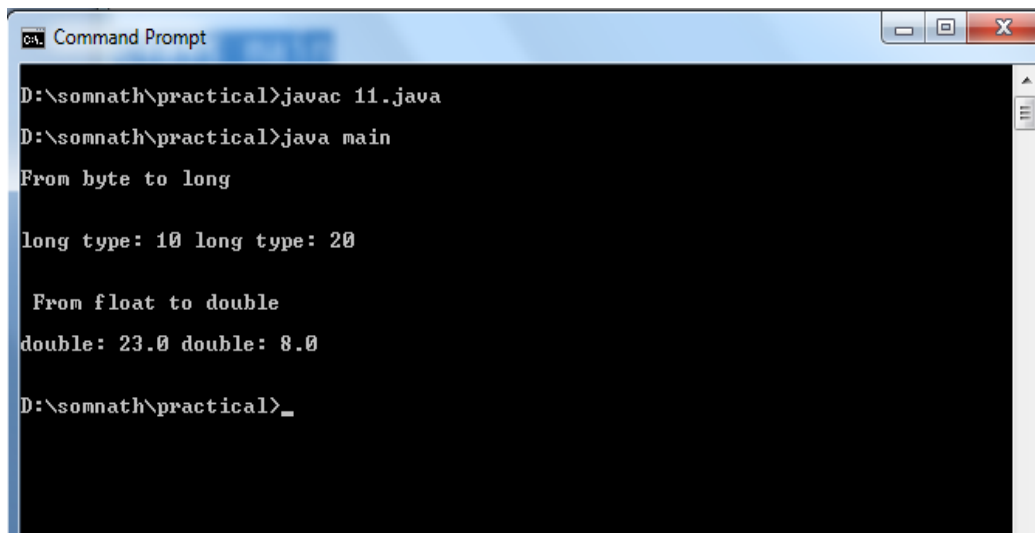
- **Write a program to show that during function overloading, if no matching argument is found, then java will apply automatic type conversions(from lower to higher data type)**

**PROGRAM CODE:**

```
class typecons {  
    void test(long x, long y) {  
        System.out.println("\nFrom byte to long\n\n");  
        System.out.println("long type: " + x + " long type: " + y + "\n");  
    }  
  
    void test(double a, double b)  
    {  
        System.out.println("\n From float to double\n");  
        System.out.println("double: " + a + " double: " + b + "\n");  
    } }  
  
class main {  
    public static void main (String args[]) {  
        typecons obj= new typecons();  
        byte a=10;  
        byte b=20;  
  
        float x=23;  
        float y=8;  
  
        obj.test(a,b);  
        obj.test(x,y);  
    } }
```



**OUTPUT:**



```
Command Prompt
D:\somnath\practical>javac 11.java
D:\somnath\practical>java main
From byte to long
long type: 10 long type: 20
From float to double
double: 23.0 double: 8.0
D:\somnath\practical>_
```

**TEACHER SIGNATURE:**

- Write a program —**DivideByZero** that takes two numbers a and b as input, computes a/b, and invokes **Arithmetic Exception** to generate a message when the denominator is zero

**PROGRAM CODE:**

```
import java.util.*;

class demo {

    public static void main(String args[]) {

        Scanner sc= new Scanner (System.in);

        System.out.println("\n"+"We are going to do a/b operation"+"\\n");

        System.out.print("Enter a: ");

        int a=sc.nextInt();

        System.out.print("Enter b: ");

        int b=sc.nextInt();

        try {

            double f=a/b;

            System.out.println("Result= "+f);

        }

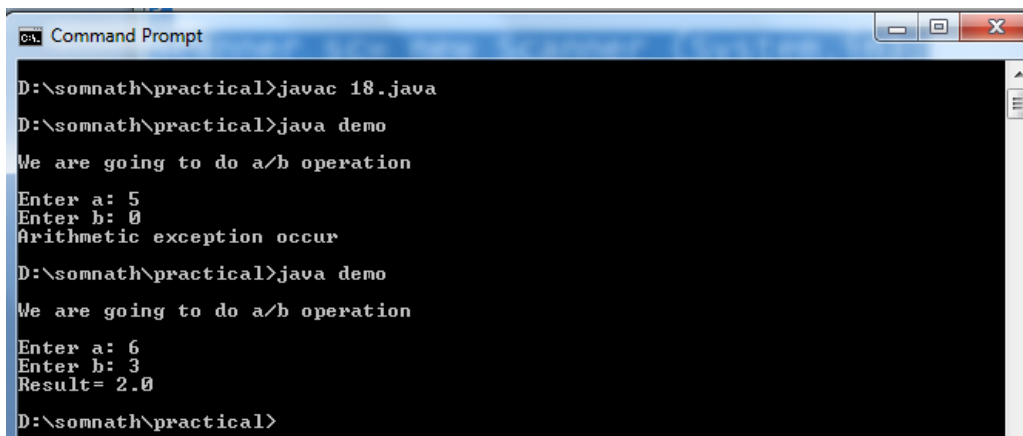
        catch(ArithmeticException e)

        {

            System.out.println("Arithmetic exception occur");

        } } }
```

**OUTPUT:**



```
Command Prompt
D:\somnath\practical>javac 18.java
D:\somnath\practical>java demo
We are going to do a/b operation
Enter a: 5
Enter b: 0
Arithmetic exception occur
D:\somnath\practical>java demo
We are going to do a/b operation
Enter a: 6
Enter b: 3
Result= 2.0
D:\somnath\practical>
```

**TEACHER SIGNATURE:**