LAB 1: INPUT THROUGH SCANNER CLASS AND COMMAND LINE ARGUMENT

Name: Shreyas Sawant Div: D7A Roll No.: 55

Q1 Write a program to check whether the number taken from user is Armstrong or not.

a)With CLA

CODE:

ArmstrongwCmd - Notepad

File Edit Format View Help

```
public class ArmstrongwCmd
{ public static void main(String args[])
        { int a;
          a= Integer.parseInt(args[0]);
          int k=0,s=0;
          int t=a;
         while(t!=0)
        { t/=10;
          k++;}t=a;
         while(t!=0)
        { int r=t%10;
          s=s+(int)(Math.pow(r,k));
          t/=10;
        }
        if(s==a)
        { System.out.println(a+" is Armstrong");
        }
        else
        System.out.println(a+ " is Not Armstrong");
        }
}
```

OUTPUT

C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac ArmstrongwCmd.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwCmd 153
153 is Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwCmd 1634
1634 is Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwCmd 5312
5312 is Not Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwCmd 101
101 is Not Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>
```

b) With Scanner Class

CODE:

ArmstrongwScan - Notepad

File Edit Format View Help

```
import java.util.*;
public class ArmstrongwScan
{ public static void main(String args[])
        { Scanner sc=new Scanner(System.in);
          System.out.println("Enter a number to check armstrong or not");
          int a= sc.nextInt();
          int k=0,s=0;
          int t=a;
         while(t!=0)
        { t/=10;
          k++;}t=a;
         while(t!=0)
        { int r=t%10;
          s=s+(int)(Math.pow(r,k));
          t/=10;
        }
        if(s==a)
        { System.out.println("Armstrong");
        }
        else
        System.out.println("Not Armstrong");
        }
}
```

OUTPUT:

C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac ArmstrongwScan.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwScan
Enter a number to check armstrong or not
371
Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwScan
Enter a number to check armstrong or not
54748
Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwScan
Enter a number to check armstrong or not
231
Not Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>java ArmstrongwScan
Enter a number to check armstrong or not
5487
Not Armstrong

C:\Users\user\Desktop\SHREYAS\Java Programs>
```

Q.2 Write a program to print factorial of number given by user.

a)With CLA

CODE:

FactorialwCmd - Notepad

File Edit Format View Help

```
public class FactorialwCmd
{       public static void main(String args[])
        {
          int a;
          a=Integer.parseInt(args[0]);
          long k=fact(a);
          System.out.println("Factorial of "+a+" is "+k);
        }

        static long fact(int f)
        { if(f<1)
          return 1;
          else
          return f*fact(--f);
        }
}
```

OUTPUT:

C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac FactorialwCmd.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java FactorialwCmd 6
Factorial of 6 is 720

C:\Users\user\Desktop\SHREYAS\Java Programs>java FactorialwCmd 15
Factorial of 15 is 1307674368000

C:\Users\user\Desktop\SHREYAS\Java Programs>java FactorialwCmd 9
Factorial of 9 is 362880

C:\Users\user\Desktop\SHREYAS\Java Programs>java FactorialwCmd 4
Factorial of 4 is 24

C:\Users\user\Desktop\SHREYAS\Java Programs>
```

b) With Scanner Class

CODE:

FactorialwScan - Notepad

File Edit Format View Help

```
import java.util.*;
public class FactorialwScan
{       public static void main(String args[])
        { System.out.println("\nEnter number to find factorial");
          Scanner s=new Scanner(System.in);
          int a=s.nextInt();
          long k=fact(a);
          System.out.println("Factorial of "+a+" is "+k);
        }

        static long fact(int f)
        { if(f<1)
          return 1;
          else
          return f*fact(--f);
        }
}
```

OUTPUT:

C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac FactorialwScan.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java FactorialwScan

Enter number to find factorial
15
Factorial of 15 is 1307674368000

C:\Users\user\Desktop\SHREYAS\Java Programs>java FactorialwScan

Enter number to find factorial
20
Factorial of 20 is 2432902008176640000

C:\Users\user\Desktop\SHREYAS\Java Programs>java FactorialwScan

Enter number to find factorial
8
Factorial of 8 is 40320

C:\Users\user\Desktop\SHREYAS\Java Programs>
```

Q.3 Write a program to print fibonacci series upto n terms, n taken from user.

a)With CLA

CODE:

FibonacciwCmd - Notepad

File Edit Format View Help

```
public class FibonacciwCmd
{ public static void main(String args[])
        {
          int a;
          a= Integer.parseInt(args[0]);
          long u=0,v=1, w;
        System.out.print("\nFibonacci series till "+a+" terms is: ");
        if(a>=1)
        System.out.print(v);
        else
        System.out.print(u);
         while(a>1)
        { w=u+v;
          System.out.print(" "+w);
          u=v;
          v=w;--a;
        }System.out.println();
        }
}
```

OUTPUT:

C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac FibonacciwCmd.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java FibonacciwCmd 9

Fibonacci series till 9 terms is: 1 1 2 3 5 8 13 21 34

C:\Users\user\Desktop\SHREYAS\Java Programs>java FibonacciwCmd 15

Fibonacci series till 15 terms is: 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610

C:\Users\user\Desktop\SHREYAS\Java Programs>java FibonacciwCmd 0

Fibonacci series till 0 terms is: 0

C:\Users\user\Desktop\SHREYAS\Java Programs>java FibonacciwCmd 30

Fibonacci series till 30 terms is: 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946 17711 28657 46368 75025 121393 196418 317811 514229 832040

C:\Users\user\Desktop\SHREYAS\Java Programs>
```

b) With Scanner Class

CODE:

FibonacciwScan - Notepad

File Edit Format View Help

```
import java.util.*;
public class FibonacciwScan
{ public static void main(String args[])
        { Scanner s=new Scanner(System.in);
          System.out.println("Enter number of terms");
          int a= s.nextInt();
          long u=0,v=1, w;
        System.out.print("\nFibonacci series till "+a+" terms is: ");
        if(a>=1)
        System.out.print(v);
        else
        System.out.print(u);
         while(a>1)
        { w=u+v;
          System.out.print(" "+w);
          u=v;
          v=w;--a;
        }System.out.println();
        }
}
```

OUTPUT:

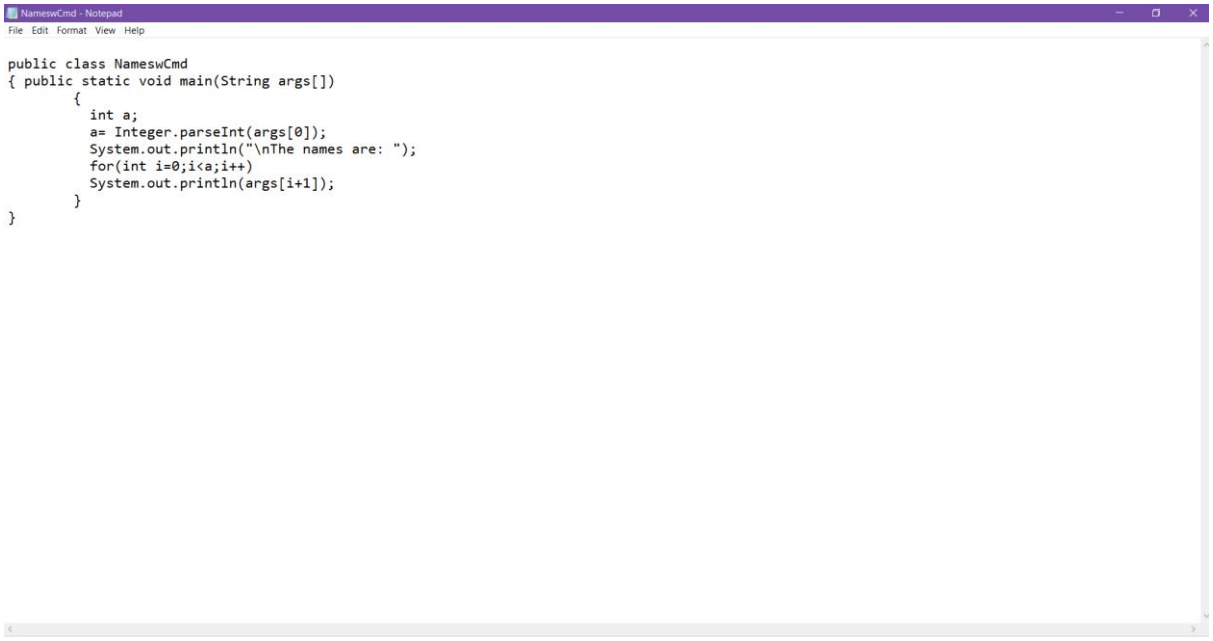
C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac FibonacciwScan.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java FibonacciwScan
Enter number of terms
5

Fibonacci series till 5 terms is: 1 1 2 3 5

C:\Users\user\Desktop\SHREYAS\Java Programs>java FibonacciwScan
Enter number of terms
15

Fibonacci series till 15 terms is: 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610

C:\Users\user\Desktop\SHREYAS\Java Programs>java FibonacciwScan
Enter number of terms
9

Fibonacci series till 9 terms is: 1 1 2 3 5 8 13 21 34

C:\Users\user\Desktop\SHREYAS\Java Programs>
```

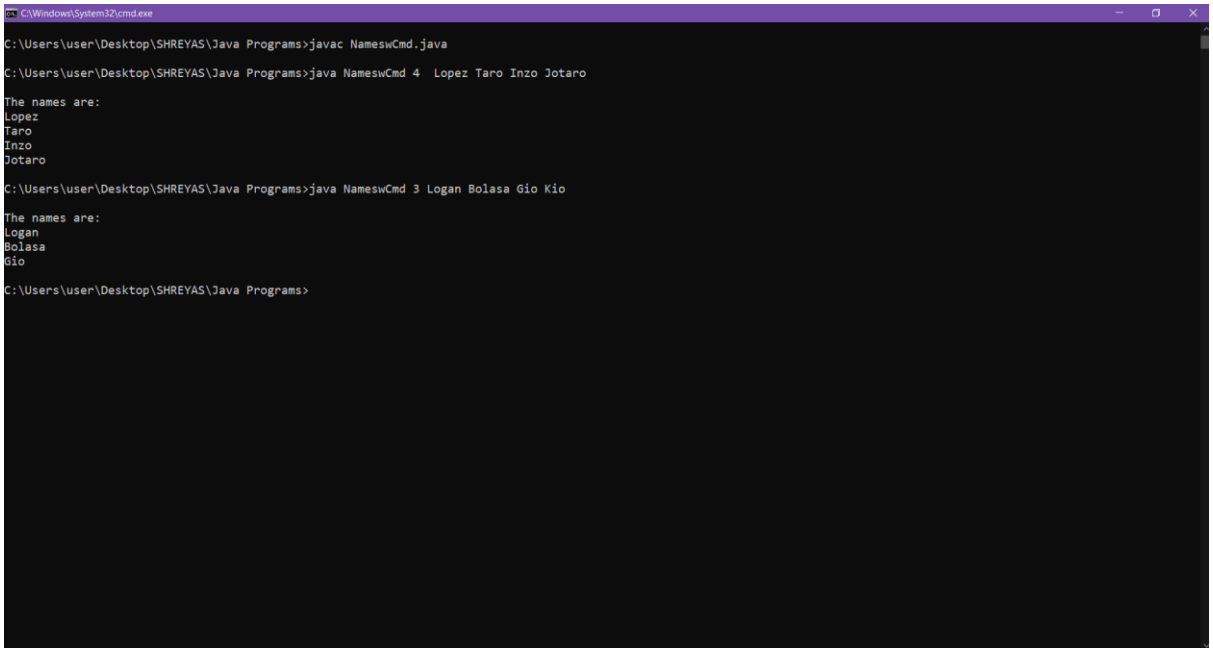
Q.4 Write a program to enter number of particpants from user take the names from user and print them.

a) With CLA

CODE:




OUTPUT:



b) With Scanner Class

CODE:

NameswScan - Notepad

File Edit Format View Help

```
import java.util.Scanner;
public class NameswScan
{ public static void main(String args[])
        { Scanner s=new Scanner(System.in);
          int a;
          System.out.println("Enter number of participants: ");
          a= s.nextInt();
          System.out.println("Enter names of participants: ");
          String n[]=new String[a];
          s.nextLine();
          for(int i=0;i<a;i++)
          n[i]=s.nextLine();
          System.out.println("\nThe names are: ");

          for(int i=0;i<a;i++)
          System.out.println(n[i]);
        }
}
```

OUTPUT:

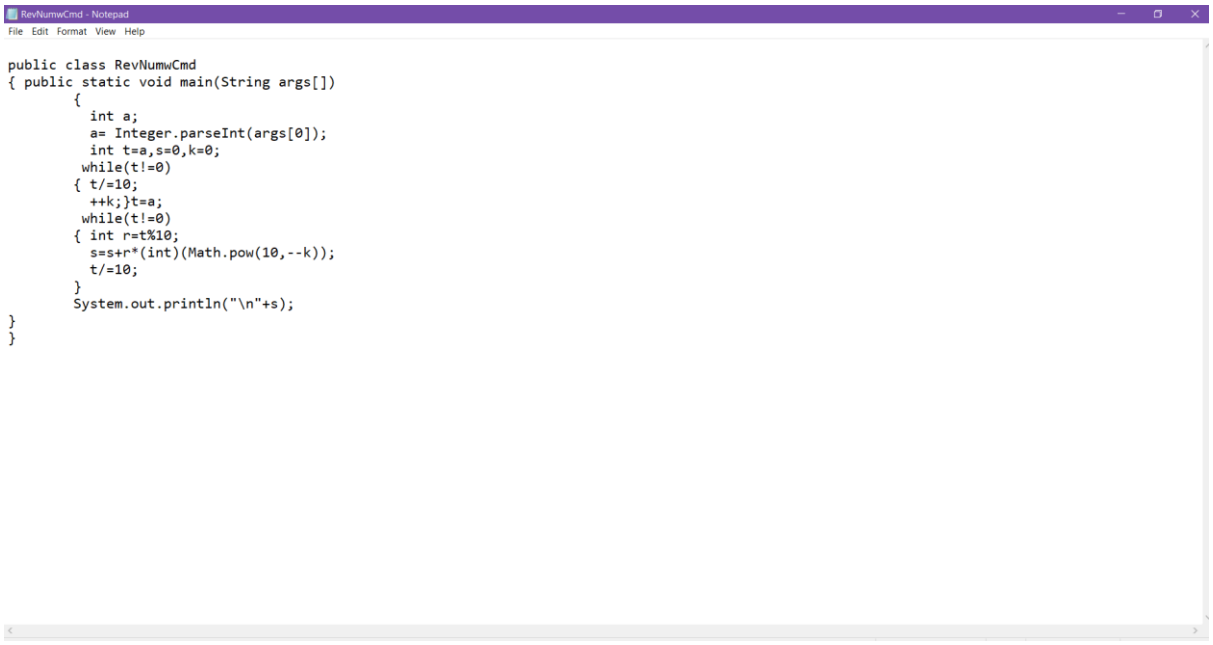
C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac NameswScan.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java NameswScan
Enter number of participants:
4
Enter names of participants:
ghds
jjd
sjd
jadsj

The names are:
ghds
jjd
sjd
jadsj

C:\Users\user\Desktop\SHREYAS\Java Programs>java NameswScan
Enter number of participants:
2
Enter names of participants:
ddjs
adha

The names are:
ddjs
adha

C:\Users\user\Desktop\SHREYAS\Java Programs>
```

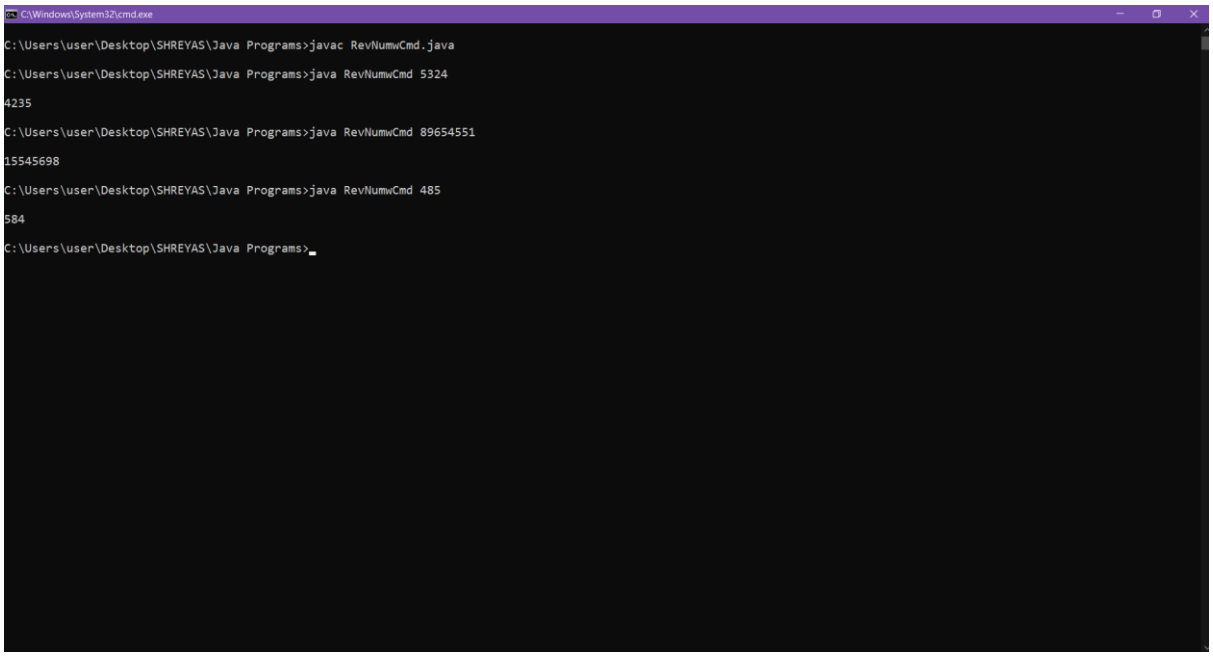
Q.5 Write a program to reverse the number entered by user.

a) With CLA

CODE:




OUTPUT:



b) Scanner Class

CODE:

RevNumwScan - Notepad

File Edit Format View Help

```
import java.util.*;
public class RevNumwScan
{ public static void main(String args[])
        { Scanner sc=new Scanner(System.in);
          System.out.println("\nEnter a number to reverse it");
          int a= sc.nextInt();
          int t=a,s=0,k=0;
         while(t!=0)
        { t/=10;
          ++k;}t=a;
         while(t!=0)
        { int r=t%10;
          s=s+r*(int)(Math.pow(10,--k));
          t/=10;
        }
        System.out.println(s);
}
}
```

OUTPUT:

C:\Windows\System32\cmd.exe

```
C:\Users\user\Desktop\SHREYAS\Java Programs>javac RevNumwScan.java

C:\Users\user\Desktop\SHREYAS\Java Programs>java RevNumwScan

Enter a number to reverse it
56984
48965

C:\Users\user\Desktop\SHREYAS\Java Programs>java RevNumwScan

Enter a number to reverse it
2548
8452

C:\Users\user\Desktop\SHREYAS\Java Programs>java RevNumwScan

Enter a number to reverse it
451
154

C:\Users\user\Desktop\SHREYAS\Java Programs>
```