2023

JAVA PROGRAMMING

21BCA81

1. Write a program to take command line input and check number is odd or even.

Code:

```
import java.util.Scanner;

class oddeven1

 {

        public static void main(String args[])

        {

                int a;

                Scanner s=new Scanner(System.in);

                System.out.println("Enter any number");

                a=s.nextInt();

                if(a%2==0)

                        System.out.println(a+" is Even Number ");

                else

                        System.out.println(a+" is Odd Number ");

        }

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac oddeven1.java

V:\SEM-4\JAVA\RISHI>java oddeven1
Enter any number
12
12 is Even Number

V:\SEM-4\JAVA\RISHI>javac oddeven1.java

V:\SEM-4\JAVA\RISHI>java oddeven1
Enter any number
3
3 is Odd Number
```

2.Write program to take command line input and sum of 2 number.

Code:

```
import java.util.Scanner;

class add1

{

        public static void main(String args[])

        {

                int a,b;

                Scanner s=new Scanner(System.in);

                System.out.println("Enter first number");

                a=s.nextInt();

                System.out.println("Enter second number");

                b=s.nextInt();

                System.out.println("Sum of "+a +" and "+b +" is "+ (a+b));

        }

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac add1.java

V:\SEM-4\JAVA\RISHI>java add1
Enter first number
12
Enter second number
12
Sum of 12 and 12 is 24
```

3.Write program to take command line input and calculate a simple interest.

Code:

```
import java.util.Scanner;

class smpleintrst1

{

	public static void main(String args[])

	{

		int p,r,t,si;

		Scanner s=new Scanner(System.in);

		System.out.println("Enter Principle amount:");

		p=s.nextInt();

		System.out.println("Enter Rate of ineterest");

		r=s.nextInt();

		System.out.println("Enter Time");

		t=s.nextInt();

		si=(p*r*t)/100;

		System.out.println("simple interest of Principal " +p+" Rate "+r+" and Time "+t+" is "  +si );

	}

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac simple.java

V:\SEM-4\JAVA\RISHI>java simple
Enter Principle amount:
1000
Enter Rate of ineterest
10
Enter Time
3
simple interest of Principal 1000 Rate 10 and Time 3 is 300
```

4.Write program to take command line input and check number is positive or negative.

Code:

```
import java.util.Scanner;
class negative
{
	public static void main(String args[])
	{
		int a;
		Scanner s=new Scanner(System.in);
		System.out.println("Enter any number");
		a=s.nextInt();
		if(a>=0)
			System.out.println(a+" is Postive");
		else
			System.out.println(a+" is Negative");
	}
}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac negative.java

V:\SEM-4\JAVA\RISHI>java negative
Enter any number
12
12 is Postive

V:\SEM-4\JAVA\RISHI>javac negative.java

V:\SEM-4\JAVA\RISHI>java negative
Enter any number
-1
-1 is Negative
```

5: Write a program to take command line input and check year is leap year or not

Code:

```
import java.util.Scanner;

class leapyear

{

        public static void main(String args[])

        {

                int a;

                Scanner s=new Scanner(System.in);

                System.out.println("Enter any year");

                a=s.nextInt();

                if(a%4==0)

                        System.out.println(a+" is Leap Year");

                else

                        System.out.println(a+" is not a Leap Year");

        }

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac leapyear.java

V:\SEM-4\JAVA\RISHI>java leapyear
Enter any year
2003
2003 is not a Leap Year
```

6: Write a program to take command line input and check and find the character is vowel or not.

Code:

```
import java.util.Scanner;

class vowel1

{

	public static void main(String args[])

	{

		char a;

		Scanner s=new Scanner(System.in);

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

		a=s.next().charAt(0);

		if(a == 'a' || a == 'e'|| a == 'i'|| a == 'o'|| a == 'u'|| a == 'A'|| a == 'E'|| a == 'I'|| a == 'O'|| a == 'U')

			System.out.println(a+" is Vowel ");

		else

			System.out.println(a+" is not a Vowel ");

	}

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac vowel1.java

V:\SEM-4\JAVA\RISHI>java vowel1
Enter any Character:
k
k is not a Vowel
```

7: Write a program reverse a given program using while loop.

```
import java.util.Scanner;
class whlrerse1
{
	public static void main(String args[])
	{
		int a,s,r,b;
		Scanner sc=new Scanner(System.in);
		System.out.println("Enter any number");
		a=sc.nextInt();
		b=a;
		s=0;
		while(a>0)
		{
			r=a%10;
			s=s*10+r;
			a=a/10;
		}
		System.out.println("Reverse Number of "+b+" is "+s);

	}
}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac whlrerse1.java

V:\SEM-4\JAVA\RISHI>java whlrerse1
Enter any number
123
Reverse Number of 123 is 321
```

8: Write a program reverse a given program using for loop

Code:

```
import java.util.Scanner;

class forrerse1

{

	public static void main(String args[])

	{

		int a,s,r,b,i;

		Scanner sc=new Scanner(System.in);

		System.out.println("Enter any number");

		a=sc.nextInt();

		b=a;

		s=0;

		for(i=0;a>0;i++)

		{

			r=a%10;

			s=s*10+r;

			a=a/10;

		}

		System.out.println("Reverse Number of "+b+" is "+s);

	}

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac forrerse1.java

V:\SEM-4\JAVA\RISHI>java forrerse1
Enter any number
12
Reverse Number of 12 is 21
```

9: Write a program to check number is armstrong or not.

Code:

```
import java.util.Scanner;

class armstrong1

{

	public static void main(String args[])

	{

		int a,s,r,b,i;

		Scanner sc=new Scanner(System.in);

		System.out.println("Enter any number");

		a=sc.nextInt();

		b=a;

		s=0;

		while(a>0)

		{

			r=a%10;

			s=s+r*r*r;

			a=a/10;

		}

		if(s==b)

			System.out.println("The Number "+b+" is Armstrong Number");

		else

			System.out.println("The Number "+b+" is not an Armstrong Number");


	}

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac armstrong1.java

V:\SEM-4\JAVA\RISHI>java armstrong1
Enter any number
28
The Number 28 is not an Armstrong Number
```

10: Write a program to check number is prime or not.

Code:

```
import java.util.Scanner;
class prime1
{
	public static void main(String args[])
	{
		int a,i,b,c=0;
		Scanner s=new Scanner(System.in);
		System.out.println("Enter any number");
		a=s.nextInt();
		b=a;
		for(i=2;i<a;i++)
		{
			if(a%i==0)
			{
				c=1;
				break;
			}
		}
		if(c==1)
			System.out.println(b+" is not a Prime Number");
		else
			System.out.println(b+" is a Prime Number");
	}
}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac  prime1.java

V:\SEM-4\JAVA\RISHI>java  prime1
Enter any number
12
12 is not a Prime Number
```

11: Write a program to check given string palindrom or not.

Code:

```
import java.util.Scanner;

class Palindrome

{

  public static void main(String args[])

  {

    String str, rev = "";

    Scanner sc = new Scanner(System.in);

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

    str = sc.nextLine();

    int length = str.length();

    for ( int i = length - 1; i >= 0; i-- )

      rev = rev + str.charAt(i);

    if (str.equals(rev))

      System.out.println(str+" is a palindrome");

    else

      System.out.println(str+" is not a palindrome");

  }

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac Palindrome.java

V:\SEM-4\JAVA\RISHI>java Palindrome
Enter a string:
rishi
rishi is not a palindrome
```

12: Write a program in java to display the pattern like right angle triangle using asterisk.

*

* *

* * *

* * * *

Code:

```
import java.util.Scanner;
class rytangl1
{
	public static void main(String args[])
	{
		int a,i,j;
		Scanner s=new Scanner(System.in);
		System.out.println("Enter any number");
		a=s.nextInt();
		for(i=0;i<5;i++)
		{
			System.out.print(" ");
			for(j=0;j<=i;j++)
				System.out.print("* ");
			System.out.println();
		}
	}
}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac  triang.java

V:\SEM-4\JAVA\RISHI>java triang
Enter any number
12
 *
 * *
 * * *
 * * * *
 * * * * *
```

13: Write a program in java to make such a pattern like pyramind with numbers increased by 1.

```
        1
      2   3
    4   5   6
  7   8   9   10
```

Code:

```
import java.util.Scanner;
class numPattern
{
    public static void main(String args[])
    {
        int r,i,j,counter=1;
        Scanner s=new Scanner(System.in);
        System.out.println("Enter any number:");
        r=s.nextInt();
        for(i=0;i<r;i++)
        {
            for(j = 0;j < r-i-1;j++)
            {
                System.out.print("  ");
            }
            for(int k = 0;k<=i;k++)
            {
                System.out.print(counter+" ");
```

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

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac  numPattern.java

V:\SEM-4\JAVA\RISHI>java numPattern
Enter any number:
11
                     1
                   2 3
                 4 5 6
               7 8 9 10
            11 12 13 14 15
          16 17 18 19 20 21
        22 23 24 25 26 27 28
      29 30 31 32 33 34 35 36
    37 38 39 40 41 42 43 44 45
  46 47 48 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63 64 65 66
```

14: Write a program to display pattern using the alphabet.

A B C D E

A B C D

A B C

A B

A

Code:

```
import java.util.Scanner;
class alphaPattern
{
	public static void main(String args[])
	{
		int a,i,j=0;
		char c;
		Scanner s=new Scanner(System.in);
		System.out.println("Enter any number:");
		a=s.nextInt();
		for(j=a;j>=1;j--)
		{
			c='A';
			for(i=1;i<=j;i++)
			{
				System.out.print(c+" ");
				c++;
			}
			System.out.println("\n");
```

```
            }
        }
}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac  alphaPattern.java

V:\SEM-4\JAVA\RISHI>java alphaPattern
Enter any number:
10
A B C D E F G H I J

A B C D E F G H I

A B C D E F G H

A B C D E F G

A B C D E F

A B C D E

A B C D

A B C

A B

A
```

15)Write a program to take command line input and print factorial of given number.

Code:

```
import java.util.Scanner;

class factorial

{

        public static void main(String args[])

        {

                int a,i,c=1;

                Scanner s=new Scanner(System.in);

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

                a=s.nextInt();

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

                {

                        c=c*i;

                }

                System.out.println("Factorial of "+a+" is: "+c);

                }

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac  factorial.java

V:\SEM-4\JAVA\RISHI>java factorial
Enter any number:
12
Factorial of 12 is: 479001600
```

16)Write a program to display Fibonacci series

Code:

```
import java.util.Scanner;

class fibonacci

{

        public static void main(String args[])

        {

                int a,b=0,c=1,k,i;

                Scanner s=new Scanner(System.in);

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

                a=s.nextInt();

                System.out.print(b+" "+c);

                for(i=2;i<a;++i)

                {

                        k=b+c;

                        System.out.print(" "+k);

                        b=c;

                        c=k;

                }

        }

}
```

OUTPUT:

```
V:\SEM-4\JAVA\RISHI>javac  fibonacci.java

V:\SEM-4\JAVA\RISHI>java fibonacci
Enter any number:
12
0 1 1 2 3 5 8 13 21 34 55 89
```