Q1

```
package Likhitha;
import java.util.*;
public class Armstrong {
	public static void main (String [] args) {
	Scanner obj = new Scanner(System.in);

	int num, sum=0, r, num1,num2, count=0, multiply;


	    System.out.println("Enter your number to Check for Armstrong");

	num = obj.nextInt();

	num2=num1 =num;

	while(num1>0)
	{
		num1=num1/10;
		count++;
	}

	while(num>0)
	{
		r=num%10;

		multiply=1;
		for(int j=1;j<=count;j++)
			multiply = multiply * r;

		sum=sum+multiply;

		num=num/10;

	}


	System.out.println("sum="+sum);
	if(sum==num2)
		System.out.println("Given number is armstrong");
	else
		System.out.println("Given number is NOT armstrong");

}
}
```

Output:

Enter your number to Check for Armstrong
9
sum=9
Given number is armstrong

Q2

```
import java.util.Scanner;
//program to display all armstrong numbers
public class AllArmstrong {

	public static void main(String[] args) {



			Scanner sc = new Scanner(System.in);

			int i, num, r, sum;

			for(i=1;i<=100000;i++)
			{
				sum=0;
				num=i;

				while(num>0)
				{
					r=num%10;
					sum=sum+(r*r*r);
					num/=10;

				}
				if(sum==i)
					System.out.println(i);

			}


		}


	}
```

Output:

```
1
153
370
371
407
```

Q3(a)

```
  package Likhitha;
import java.util.*;

public class SumSeries1 {

	public static void main(String[] args) {
		Scanner obj = new Scanner(System.in);
		int i,n;
		float x, sum=0f;
```

```
            System.out.println(" Program to find sum of x-2/x+3/x-4/x------
n/x");
            System.out.println("Enter x value");
            x=obj.nextFloat();

            System.out.println("Enter n value");
            n=obj.nextInt();
            for (i=1;i<n;i++)
                  if(i%2==0)
                        sum=sum-(float)i/x;
                  else
                        sum=sum+(float)i/x;
            System.out.println("sum of series:"+ sum);


      }

}
```

Output:

```
Program to find sum of x-2/x+3/x-4/x------n/x
Enter x value
5
Enter n value
2
sum of series:0.2
```

Q3(b)

```
package Likhitha;
import java.util.Scanner;
public class SumSeries {

      public static void main(String[] args) {
      Scanner obj= new Scanner(System.in);
      int i,n,j;
      long Sum=0,fact=1;
      System.out.println("program to find sum of 1!+2!+3!+--n!");
      System.out.println("Enter n value");
      n=obj.nextInt();
      for(i=1;i<=n;j++)
      {
            fact=1;
            for (j=1;j<=n;j++)
            {
                  fact=fact*j;


            System.out.print(fact+"!+");
            }
            Sum=Sum+fact;
      }
      System.out.println("sum of series:"+Sum);



      }

}
```

Output:

```
program to find sum of 1!+2!+3!+--n!
Enter n value
4
1!+2!+6!+24!+
Sum of series:24
```

Q4

```
import java.util.*;
public class PrimeNumber {

	public static void main(String[] args) {
		int num, i, flag=0;
		Scanner obj= new Scanner(System.in);
		System.out.println("Enter your number to check for prime or not
");
		num=obj.nextInt();
		for (i=2;i<num;i++)
		{
		if(num%i==0)
		{
			flag=1;
			break;

		}
		}
	 if (flag==0)
	   System.out.println("Given number is Prime number");
	 else
	   System.out.println("Given number is not Prime number");

	}

}
```

Output:

```
_Enter your number to check for prime or not
7
Given number is Prime number
```

Q5

```
package Likhitha;

public class AllPerfectNum {

	public static void main(String[] args) {

		for(  int i=1;1<=100000;i++)
		{
			int sum=0;
			for( int j=1;j<i;j++)
			{
```

```
                        if(i%j==0)
                        {
                              sum=sum+j;

                        }
                  }
                  if(sum==i)
                  {
                        System.out.println(i);
                  }
            }

      }




      }
```

Output:

6
28
496
8128

Q6

```
 package Likhitha;
import java.util.*;
public class ExtractDigits {

      public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            String text,digits="";

            char ch;
            int i;

            System.out.println("Enter your text");
            text = sc.next();

            for(i=0;i<text.length();i++) {
                  ch = text.charAt(i);
                  if(ch>='0'&ch<='9')
                        digits+=ch;


            }
            System.out.println("Extracted digits are "+digits);

      }


      }
```

Output:

```
Enter your text
2
Extracted digits are 2
```

Q7

```
package Likhitha;
import java.util.Scanner;
public class ReverseDigits {

	public static void main(String[] args) {


			Scanner obj = new Scanner(System.in);
			System.out.print("Enter a number: ");
			int number = obj.nextInt();

			int reversedNumber = reverseDigits(number);
			System.out.println("Reversed number: " +
reversedNumber);
		}

		public static int reverseDigits(int number) {
			int reversedNumber = 0;
			while (number != 0) {
				int digit = number % 10;
				reversedNumber = reversedNumber * 10 + digit;
				number /= 10;
			}
			return reversedNumber;
		}



	}
```

Output:

```
Enter a number: 6
Reversed number: 6
```

Q8

```
_package Likhitha;
import java.util.Scanner;
public class Power {

	public static void main(String[] args) {
		Scanner in = new Scanner(System.in);
		int base,exponent;
		long val=1;
		System.out.println("Enter base value");
		base = in.nextInt();
		System.out.println("Enter exponent value");
		exponent = in.nextInt();
		for(int i=1;i<=exponent;i++)
```

```
                val*=base;
            System.out.println(base+"^"+exponent+" = "+val);

        }

}
```

Output:

```
Enter base value
2
Enter exponent value
4
2^4 = 16
```

Q9(a)

```
    package Likhitha;
import java.util.Scanner;
public class FirstLetter {

      public static void main(String[] args) {
Scanner sc = new Scanner(System.in);

            // create a string
          String message;
          message = sc.nextLine();

          // stores each characters to a char array
          char[] charArray = message.toCharArray();
          boolean foundSpace = true;

          for(int i = 0; i < charArray.length; i++) {

            // if the array element is a letter
            if(Character.isLetter(charArray[i])) {

              // check space is present before the letter
              if(foundSpace) {

                // change the letter into uppercase
                charArray[i] = Character.toUpperCase(charArray[i]);
                foundSpace = false;
              }
            }

            else {
              // if the new character is not character
              foundSpace = true;
            }
          }

          // convert the char array to the string
          message = String.valueOf(charArray);
          System.out.println("Message: " + message);
        }
}
```

Output:

```
my name is likhitha
Message: My Name Is Likhitha
```

Q10

```
 package Likhitha;
import java.util.Scanner;
public class NoofDigits {

	public static void main(String[] args) {

		Scanner sc = new Scanner(System.in);
		String text;

		char ch;
		int i,count=0;

		System.out.println("Enter your text");
		text = sc.next();

		for(i=0;i<text.length();i++) {
			ch = text.charAt(i);
			if(ch>='0'&ch<='9')
				count++;
		}
		System.out.println("No.of digits in the given text :"+count);

	}

}
```

Output:

```
Enter your text
567
No.of digits in the given text :3
```