1. **Aim:**

To Write Java program for reversing a number

Pseudo Code:

```
Step 1: initialize the variables and get the number from
        the user
Step 2: using the while loop perform:
            • get the last digit from the number
            • add it with Sum and multiply with 10
            • remove the last digit from the number
Step 3: display the result
```

Program:

```
import java.util.Scanner;
public class reverse_number {
    public static void main (String[] args){
        Scanner input = new ~~input(~~ Scanner (System.in);
        System.out.print ("enter the number: ");
        int num= Scanner.next Int();
        int rev=0, temp;
        while (num>0)
        {
         temp=num%10;
         rev= rev*10+temp;
         num= num/10;
        }.
System.out.println("reversed number = "+rev);
}
}
```

Sample output:

```
enter the number: 2435
reversed number: 5342
```

2 **Aim:**

To write Java program for Checking weather a number is Amstrong or not

Pseudo Code:

```
Step 1: initialize the variables and get the input number
        from the user
Step 2: using while loop get the last digit from the
        number.
Step 3: find the Cube and add it with Sum Variable. Then
        remove the last digit. Continue until the ~~proc~~
        number is greater than Zero
Step4:  If Sum is equal to the actual number then
        it is amstrong number. else it is not a
        Amstrong number
        eg: $153 = 1^3 + 5^3 + 3^3$
```

Program:

```
import java.util.Scanner;
 public class amstrong {
   public static void main(String[ ] args) {
     System.out.print("enter the number: ");
     int n= input.nextInt();
     int temp=n, b, Sum=0;
     while (n>0) {
      b= n%10;
      Sum+ = b*b*b;
      n= n/10;
     }
     if (Sum = = temp)
    {
      System.out.print ("Amstrong");
    }
    else
    System.out.print ("Not Amstrong");
  }
 }
```

Sample output:

```
enter the number: 153
Amstrong
```

3. Aim:

To write Java program for finding the gcd of two numbers

Pseudo Code:

```
Step 1: To initialize the variables, and get the numbers
        a and b from the user
Step 2: using the for loop find a number which is
        less than a and b and also the number
        should divisible by both a and b
Step 3: If you get multiple numbers then choose the
        largest one
```

Program:

```
import java.util.Scanner;
public class gcd {
   public static void main(String[] args){
      Scanner input = new Scanner(System.in);
      System.out.print("enter two numbers : ");
      int a = input.nextInt();
      int b = input.nextInt();
      int i, gcd=1;
      for(i=1; i<=a && i<=b; i++)
      {
         if(a%i==0 && b%i==0)
      {
        gcd = i;
      }
    }
    System.out.print (" gcd = "+gcd);
  }
}
```

Sample Output:

```
enter two numbers: 6 90
gcd=6
```

4. ## Aim:

To write Java program for merging two Sorted array arrays into a Single Sorted array

Pseudo Code:

```
Step 1: initialize the Variables and get the input Strings
        from the user
Step 2: merge the both ~~Sig~~ Strings and then Sort the
        array and Store it in new array
Step3:  Convert the array into String and display the
        Single merged array
```

Program:

```
import java.util.Scanner;
public class merge {
    public Static void main(String[] args) {
        int [] a= {1,4,7,9};
        int [] b= { 3,6,11};
        int []  c= new int[a.length + b.length];
        for(int i=0;i<a.length;i++)
            c[i]= a[i];
        for (i=0; i<b.length;i++)
            c[i+ a.length] =b[i];
        Arrays.Sort(c);
        System.out.print(Arrays.toString(c));
    }
}
```

Sample output:

```
Sorted array: [1,3,4,6,7,9,11]
```

Aim:

To write Java Program for find the frequency of each char in a String

Pseudo Code:

```
Step 1: initialize the variables and get the input String
        from the user
Step 2: An array of size 256 is used to store the
        frequency of each ASCII character
Step 3: Iterate the loop over each char of the String and
        update the frequency Count
Step 3: if frequency is greater than Zero then print the
        char and its frequency
```

Program:

```
public class frequency {
    public static void main(String[] args) {
        String input= "hello";
        int [] frequency = new int[256];
        for (int i=0; i< input.length; i++) {
            char ch = input.CharAt(i);
            frequency[ch]++;
        }
        for( i=0 ; i< frequency.length; i++) {
            if (frequency [i] >0) {
```

```
        System.out.println ((Char)i + ":" + frequency[i]);
      }
    }
  }
}
```

Sample output:

```
e: 1
h: 1
l: 2
o: 1
```