1.

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

   static void print(int a, int b, int n)
   {
      int sum=a;
      for(int i=0;i<n;i++)
      {
         sum+=(int)Math.pow(2, i)*b;
         System.out.print(sum+" ");
      }
   }
   public static void main(String[] args) {

      Scanner scan=new Scanner(System.in);
      int a=scan.nextInt();
      int b=scan.nextInt();
      int n=scan.nextInt();

      print(a, b, n);

   }
}
```

2.

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

```
    static int  ReverseOfx(int n)
    {
        int reverse=0;
        int sign=(n>0)?1:-1;
        n=Math.abs(n);

        while(n>0)
        {
            reverse=reverse*10+ n%10;
            n=n/10;
        }

        return reverse*sign;
    }
    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);

        System.out.println(ReverseOfx(123));
        System.out.println(ReverseOfx(-123));
        System.out.println(ReverseOfx(406));
    }
}
```

3.

```
import java.util.*;
```

```
public class code {

    static void BinaryNum(int n)
    {
        if(n==0) return;
        BinaryNum(n/2);
        System.out.print(n%2+" ");
    }
    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);

        BinaryNum(23);
        System.out.println(" ");
        BinaryNum(124);
        System.out.println(" ");
        BinaryNum(234);
    }
}
```

5.

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

    static boolean isprime(int a)
    {
        If(n<=1) return false;
        for(int i=2;i*i<=a;i++)
```

```
    {
        if(a%i==0) return false;
    }

    return true;
}

static void NearestPrime(int a)
{
    int left=a, right=a;

    while(true)
    {
        if(isprime(left)==true)
            break;
        left++;
    }

    while(true)
    {
        if(isprime(right)==true)
            break;
          right--;
      if(right<=1)
       {
                right=INT_MIN;
               break;
```

```
        }
    }

    if(left==right && right==a)
    {
        System.out.println(a+" ");
    }
    else if(Math.abs(left-a)==Math.abs(right-a))
    {
        System.out.println(left+" , "+right);
    }
    else
    {
        int a1=Math.abs(left-a);
        int b1=Math.abs(right-a);

        if(a1<b1) System.out.println(left);
        else System.out.println(right);
    }
}
public static void main(String[] args) {

    Scanner scan=new Scanner(System.in);

    NearestPrime(11);
    NearestPrime(25);
    NearestPrime(21);
```

```
        NearestPrime(6);



    }
}
```

6.

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

    static boolean isprime(int a)
    {
        if(a==1) return false;

        for(int i=2;i*i<=a;i++)
        {
            if(a%i==0) return false;
        }

        return true;
    }

    static boolean PrimeDigitSum(int n)
    {
        int sum=0;
        while(n>0)
        {
```

```
            if(isprime(n%10)) sum+=n%10;
            n=n/10;
        }

         return isprime(sum);
    }
    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);

        System.out.println(PrimeDigitSum(1234));
        System.out.println(PrimeDigitSum(5677));
        System.out.println(PrimeDigitSum(987));
        System.out.println(PrimeDigitSum(3456));




    }
}
```

7.

```
import java.util.*;

public class code {

    static boolean isamstrong(int a) {
        int cnt = 0, temp1 = a, temp2 = a;
```

```
    while (a > 0)
    {
        cnt++;
        a=a/10;
    }

    int sum = 0;

    while (temp1 > 0) {
        sum += Math.pow((temp1 % 10), cnt);
        temp1 = temp1 / 10;
    }

    if (sum == temp2)
        return true;
    else
        return false;

}

static void NearestArmstrong(int a) {

    int left = a, right = a;

    while (true) {
        if (isamstrong(left) == true)
            break;
```

```
        left++;
    }

    while (true) {
        if (isamstrong(right) == true)
            break;
        right--;
    }

    if (left == right && right == a) {
        System.out.println(a + " ");
    } else if (Math.abs(left - a) == Math.abs(right - a)) {
        System.out.println(left + " , " + right);
    } else {
        int a1 = Math.abs(left - a);
        int b1 = Math.abs(right - a);

        if (a1 < b1)
            System.out.println(left);
        else
            System.out.println(right);
    }

}

public static void main(String[] args) {
```

```
        Scanner scan = new Scanner(System.in);

        NearestArmstrong(5);
        NearestArmstrong(99);
        NearestArmstrong(450);
        NearestArmstrong(1600);
    }
}
```

8.

```
import java.util.*;

public class code {

    static void FibPrime(int a, int b) {

        int[] arr=new int[b+1];

        for(int i=0;i<(b+1);i++)
        {
            arr[i]=i;
        }

        for(int i=2;i*i<=(b);i++)
        {
            if(arr[i]!=-1)
            {
                for(int j=i*i;j<=b;j+=i)
```

```
        {
            arr[j]=-1;
        }
    }
}

arr[0]=-1;
arr[1]=-1;

int fib1=0, fib2=1, fib3=0;

while( (fib1+fib2) <=b)
{
    fib3=fib1+fib2;
    fib1=fib2;
    fib2=fib3;

    if(arr[fib3]!=-1) arr[fib3]=-2;
}

int cnt=0;

for(int i=a;i<=b;i++)
{
    if(arr[i]==-2)
    {
        System.out.print(i+" ");
```

```
            cnt++;
        }
    }

    if(cnt==0) System.out.println(0);

  }

  public static void main(String[] args) {

    Scanner scan = new Scanner(System.in);

    FibPrime(2,25);
    System.out.println(" ");
    FibPrime(1,100);
    System.out.println(" ");
    FibPrime(25, 75);
  }
}
```

9.

```
import java.util.*;

public class code {

  static boolean isFib(int a)
  {
```

```
    if(a==0 || a==1) return true;

    int fib1=0, fib2=1, fib3=0;

   while( (fib1+fib2) <=a)
   {
       fib3=fib1+fib2;
       fib1=fib2;
       fib2=fib3;

       if(fib3==a) return true;
   }
   return false;
}

static boolean isprime(int a)
{
    if(a==1) return false;

    for(int i=2;i*i<=a;i++)
    {
       if(a%i==0) return false;
    }

    return true;
}
```

```
    static void  FibPrime(int a)
    {

       if(isFib(a) && isprime(a)) System.out.println(a);
       else System.out.println(0);
    }

    public static void main(String[] args) {

       Scanner scan = new Scanner(System.in);

       FibPrime(29);
       System.out.println(" ");
       FibPrime(79);
       System.out.println(" ");
       FibPrime(13);
    }
}
```