

```
import java.lang.Math;

public class App {

    //Main

    public static void main(String[] args) throws Exception {

        displayElements();

        for(int i=0;i<60;i++) System.out.print("-");

        displayPalindromePrime();

    }

    //Palindrome Prime

    public static boolean checkPrime(int num){

        int factor = 0;

        for(int i = 1;i<=num;i++){

            if(num%i==0) factor++;

            if(factor>2) break;

        }

        if(factor==2) return true;

        else return false;

    }

    public static boolean checkPalindromic(int num){

        String number = Integer.toString(num);

        if(number.length()%2==0){

            int loopRound = number.length()/2;

            int sameRound = 0;

            for(int i = 0;i<loopRound;i++){

                if(Character.compare(number.charAt(loopRound-i-1), number.charAt(loopRound+i))!=0){

                    sameRound++;

                }

            }

            if(sameRound==loopRound) return true;

        }

    }

}
```

```
        else return false;
    }
    else{
        int loopRound = (number.length()-1)/2;
        int sameRound = 0;
        for(int i = 0;i<loopRound;i++){
            if(Character.compare(number.charAt(loopRound-i-1), number.charAt(loopRound+i+1))==0){
                sameRound++;
            }
        }
        if(sameRound==loopRound) return true;
        else return false;
    }
}

public static void displayPalindromePrime(){
    Stopwatch stopWatch = new Stopwatch();
    System.out.println("The palindromPrime stopwatch starts...");
    System.out.println("Creating 1000 PalindromPrime...");
    int size = 0;
    int num = 1;
    stopWatch.start();
    while(size!=100){
        if(checkPrime(num) && checkPalindromic(num)){
            System.out.print(num + " ");
            size++;
            if(size%10==0) System.out.println();
        }
        num++;
    }
    stopWatch.stop();
    Long elapsedTime = stopWatch.getElapsedTime();
```

```
        Double elapsedTimeDouble = elapsedTime.doubleValue();

        System.out.println("PalindromePrime created.");

        System.out.println("The palindromPrime stopwatch stoped.");

        System.out.printf("The palindromPrime time is %.1f milliseconds.\n",elapsedTimeDouble);
    }

    //Sort Elements

    public static void showElements(double[] elementsList,int size){

        for(int i=0;i<size;i++){

            System.out.print("    ");

            String floatToString = Double.toString(elementsList[i]);

            if(Character.compare(floatToString.charAt(2), '.')==0){

                System.out.print(" ");

            }

            else if(Character.compare(floatToString.charAt(1), '.')==0){

                System.out.print(" ");

            }

            System.out.printf("%.2f",elementsList[i]);

            if((i+1)%5==0) System.out.println();

        }

    }

    public static void displayElements(){

        Stopwatch stopWatch = new Stopwatch();

        double[] elementsList = new double[1000];

        for(int i=0;i<1000;i++){

            elementsList[i] = Math.random()*(999)+1;

        }

        System.out.println("Creating a list containing 1000 elements,");

        showElements(elementsList, 1000);

        System.out.println("List Created.");

        System.out.println("Sorting stopwatch starts...");
```

```
stopWatch.start();

Double temp = 0.0;

for(int i=0;i<1000;i++){

    for(int j=1;j<1000-i;j++){

        if(elementsList[j-1]>elementsList[j]){

            temp = elementsList[j-1];

            elementsList[j-1]=elementsList[j];

            elementsList[j]=temp;

        }

    }

}

stopWatch.stop();

Long elapsedTime = stopWatch.getElapsedTime();

Double elapsedTimeDouble = elapsedTime.doubleValue();

showElements(elementsList, 1000);

System.out.println("Sorting stopwatch stoped.");

System.out.printf("The sort time is %.1f milliseconds.\n",elapsedTimeDouble);

}
```

```
class Stopwatch {

    private long startTime;

    private long endTime;

    public Stopwatch(){

        this.startTime = System.currentTimeMillis();

    }

    public void start(){

        this.startTime = System.currentTimeMillis();

    }

}
```

```
}

    public void stop(){
        this.endTime = System.currentTimeMillis();
    }

    public long getElapsedTime(){
        return this.endTime - this.startTime;
    }
}
```