

## TASK2:

```
class Main {  
    public static int binarySearch(int[] arr, int target) {  
        int low = 0;  
        int high = arr.length - 1;  
        while (low <= high) {  
            int mid = (low + high) / 2;  
            if (arr[mid] == target) {  
                return mid;  
            }  
            else if (arr[mid] > target) {  
                high = mid - 1;  
            }  
            else {  
                low = mid + 1;  
            }  
        }  
        return -1;  
    }  
    public static void main(String[] args) {  
        int[] arr = {2, 4, 5, 6, 77, 88, 99};  
        int target = 77;  
        int result = binarySearch(arr, target);  
        if (result != -1)  
            System.out.println("Element found at index: " + result);  
        else  
            System.out.println("Element not found");  
    }  
}
```

```
PS C:\Users\likit> & 'C:\Program Files\Eclipse Adoptium\jdk-17.0
localhost:50785' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\
Element found at index: 4
PS C:\Users\likit>
```

### Task3:

```
class Maximum{  
    public static void main(String args[]){  
        int max=0;  
        int arr[]={1,2,3,4,5,6,7};  
        for(int i=0;i<arr.length;i++){  
            int temp=arr[i];  
            if(arr[i]>=max){  
                max=arr[i];  
            }  
        }  
        System.out.print(max);  
    }  
}
```

```

PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\likit> & 'C:\Program Files\Eclipse Adoptium\jdk-17.0.13.11-hotspot\
lhost:63042' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\likit\AppData
7
PS C:\Users\likit>

```

## Task 4

```
class Kthsmallest {  
  
    public static int findsmallest(int[] arr, int k) {  
  
        int n = arr.length;  
  
        for (int i = 0; i < k; i++) {  
  
            int minIndex = i;  
  
            for (int j = i + 1; j < n; j++) {  
  
                if (arr[j] < arr[minIndex]) {  
  
                    minIndex = j;  
  
                }  
  
            }  
  
        }  
  
    }  
}
```

```

        }

        int temp = arr[i];

        arr[i] = arr[minIndex];

        arr[minIndex] = temp;

    }

    return arr[k - 1];

}

public static void main(String[] args) {

    int[] arr = {7, 10, 4, 3, 20, 15};

    int k = 3;

    System.out.println("Kth smallest element: " + findsmallest(arr, k));

}

}

```

```

PS C:\Users\likit> & "C:\Program Files\Eclipse Adoptium\jdk-17.0.13-hotspot\bin\java.exe" -agentlib:jdwp=transport=dt_socket,server=true,address=59471' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\likit\AppData\Local\Temp\vscodesws_6a45f\j
Kth smallest element: 7
PS C:\Users\likit>

```

## TASK 5

```

public class Pairs {

    public static void main(String args[]){

        int arr[]={1,2,3,4};

        int n=arr.length;

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

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

                System.out.println("(" +arr[i]+", "+arr[j]+")");

            }

        }

    }

}

```

```
PROBLEMS 2 OUTPUT DEBUG CONSOLE
PS C:\Users\likit> & 'C:\Program
lhost:52490' '-XX:+ShowCodeDetails
(1,2)
(1,3)
(1,4)
(2,3)
(2,4)
(3,4)
PS C:\Users\likit>
```

## Task6

```
public class Sumofdigits {
    public static void sumofevenandodd(int num){
        int sum=0;
        while(num > 0){
            if(num%2==0){
                int reminder=num%10;
                if(reminder%2==0){
                    sum=reminder+sum;
                    num=num/10;
                }
            }
            else{
                int reminder=num%10;
                if(reminder%2!=0){
                    sum=reminder+sum;
                    num=num/10;
                }
            }
        }
        System.out.print(sum);
    }
}
```

```

public static void main(String args[]){

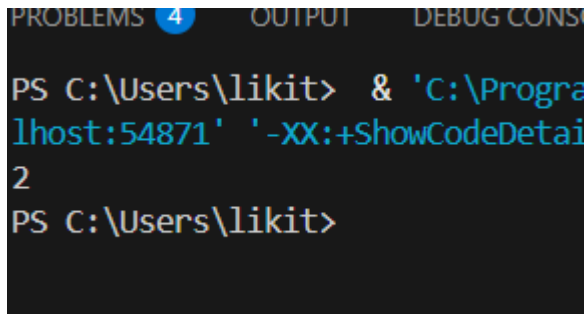
    Sumofdigits s1=new Sumofdigits();

    s1.sumofevenandodd(11);

}

}

```



### Task7:

```

public class Nthfibonacci {

    public static void fibonacci(int num) {

        int firstnum = 0;

        int secondnum = 1;

        int result;

        if (num == 0) {

            System.out.println(firstnum);

            return;

        }

        else if (num == 1) {

            System.out.println(secondnum);

            return;

        }

        for (int i = 2; i <= num; i++) {

            result = firstnum + secondnum;

            firstnum = secondnum;

            secondnum = result;

        }

        System.out.print(secondnum);

    }

}

```

```

    }

    public static void main(String[] args) {

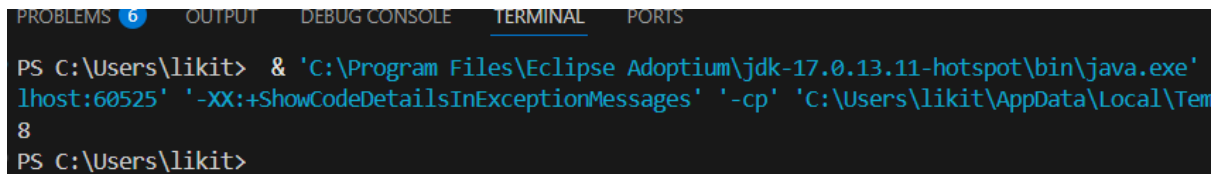
        Nthfibonacci n1 = new Nthfibonacci();

        n1.fibonacci(6);

    }

}

```



The screenshot shows a terminal window with tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, and PORTS. The TERMINAL tab is active, displaying a command prompt where a Java command is entered. The command is: `PS C:\Users\likit> & 'C:\Program Files\Eclipse Adoptium\jdk-17.0.13.11-hotspot\bin\java.exe' -Xmx60525' -XX:+ShowCodeDetailsInExceptionMessages' -cp 'C:\Users\likit\AppData\Local\Temp\8`. The prompt then shows `PS C:\Users\likit>`.

## TASK9:

```

class Main {

    public static boolean isPalindrome(int num) {

        int original = num;

        int rev = 0;

        while (num > 0) {

            int digit = num % 10;

            rev = rev * 10 + digit;

            num = num / 10;

        }

        return original == rev;

    }

    public static void main(String[] args) {

        int num = 121;

        if (isPalindrome(num))

            System.out.println("Palindrome Number");

        else

            System.out.println("Not a Palindrome Number");

    }

}

```

```
PS C:\Users\likit> & 'C:\Program Files\Eclipse Adoptium\jdk-17.0.10\bin\java.exe' -Xmx1024m -Djava.class.path=C:\Users\likit\Documents\Task10\Task10.jar -XX:+ShowCodeDetailsInExceptionMessages -cp C:\Users\likit\Documents\Task10\Task10.jar 10
Element found at index: 4
PS C:\Users\likit>
```

## TASK10

```
public class Sumoflast2 {  
    public static void main(String args[]){  
        int num=128;  
        int sum=0;  
        int count=1;  
        while(num != 0&&count<=2){  
            int res=num%10;  
            sum=res+sum;  
            count++;  
            num=num/10;  
        }  
        System.out.print(sum);  
    }  
}
```

```
PROBLEMS 8 OUTPUT DEBUG CONSOLE TERMINAL PORTS  
PS C:\Users\likit> & 'C:\Program Files\Eclipse Adoptium\jdk-17.0.10\bin\java.exe' -Xmx1024m -Djava.class.path=C:\Users\likit\Documents\Task10\Task10.jar -XX:+ShowCodeDetailsInExceptionMessages -cp C:\Users\likit\Documents\Task10\Task10.jar 10  
10  
PS C:\Users\likit>
```