



DESMOND RICHARD DOSS.L

JAVA TASK-5

1. Write a java program to Read an array from the keyboard and separate odd numbers and even numbers in to two different arrays:

program:

```
package com.desmond.javatask;
```

```
class d{
```

```
    void display(){
```

```
        int a[] = {1, 5, 2, 8, 9};
```

```
        System.out.println("Odd nos:");
```

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

```
            if(a[i]%2!=0){
```

```
                System.out.print(a[i]+" ");
```

```
            }
```

```
        }
```

```
        System.out.println(); //for new line
```

```
        System.out.println("Even no.s:");
```

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

```
            if(a[i]%2==0){
```

```
                System.out.print(a[i]+" ");
```

```
            }
```

```
        }
```

```
    }
```

```
}
```

```
public class OddEven {
```

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

```
        d obj=new d();
```

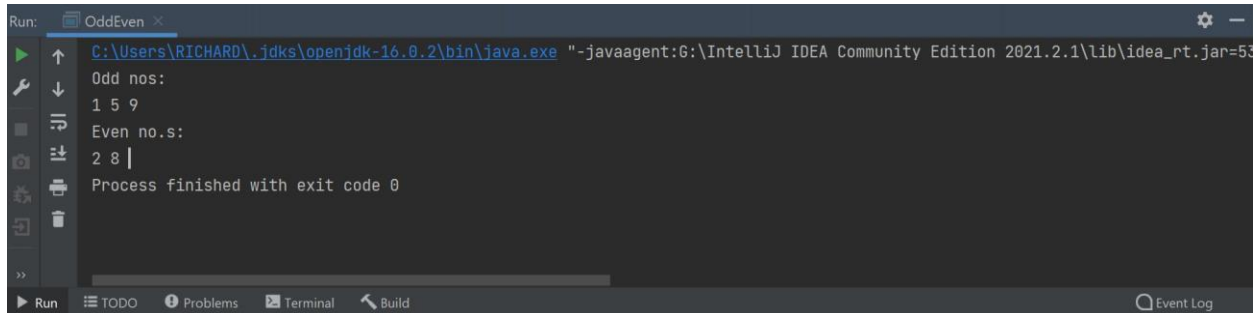
```
        obj.display();
```

```

    }
}

```

o/p:



```

Run: OddEven x
C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53
Odd nos:
1 5 9
Even no.s:
2 8 |
Process finished with exit code 0

```

2. program to reverse the content of an array:

Program:

```
package com.desmond.javatask;
```

```
import java.util.Scanner;
```

```
class Sample3{
```

```
    void display(){
```

```
        int size; //declared size
```

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

```
        System.out.println("Enter array size:");
```

```
        size=input.nextInt();//initialized size value
```

```
        int arr[]=new int[size];//declared array elements
```

```
        System.out.println("Enter array elements:");
```

```
        for(int i=0;i<size;i++){ //initialized array elements
```

```
            arr[i]=input.nextInt();//decl array elements
```

```
        }
```

```
        System.out.println("Entered array elements are");
```

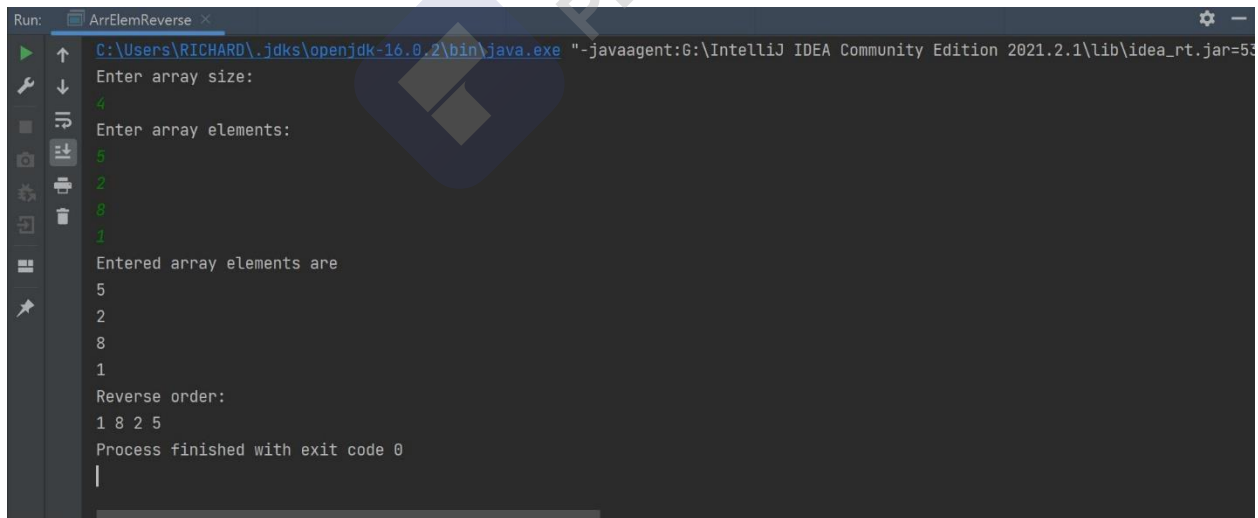
```
        for(int i=0;i<size;i++){
```

```
        System.out.println(arr[i]);
    }
    System.out.println("Reverse order:");
    for(int i= arr.length-1;i>=0;i--){
        System.out.print(arr[i]+" ");
    }

}
}

class ArrElemReverse {
    public static void main(String[] args) {
        Sample3 s=new Sample3();
        s.display();
    }
}

o/p:
```



```
Run: ArrElemReverse
C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53
Enter array size:
4
Enter array elements:
5
2
8
1
Entered array elements are
5
2
8
1
Reverse order:
1 8 2 5
Process finished with exit code 0
```

3. Write a program to sort an array:

Program:

```
package com.desmond.javatask;
```



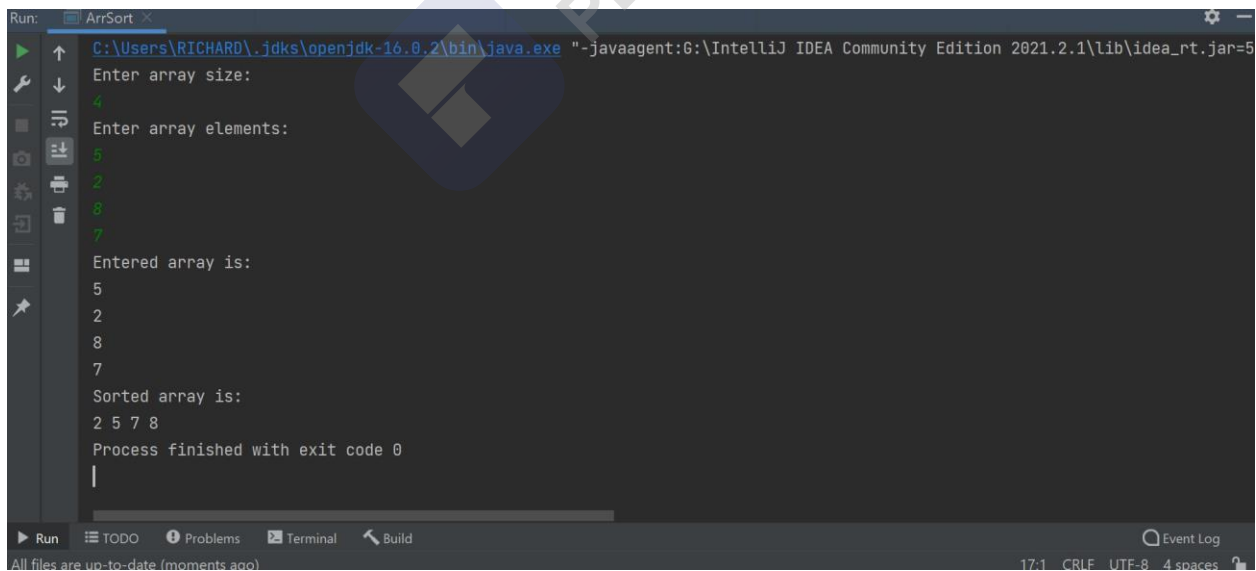
```
import java.util.Scanner;

class Sample4{
    void display(){
        int size;//declared array size
        int temp=0;
        Scanner input=new Scanner(System.in);
        System.out.println("Enter array size:");
        size=input.nextInt();//initialized array size
        int arr[]=new int[size];//declared array elements
        System.out.println("Enter array elements:");
        for(int i=0;i<size;i++){
            arr[i]=input.nextInt(); //initialized arr elements
        }
        System.out.println("Entered array is:");
        for(int i=0;i<size;i++){
            System.out.println(arr[i]);
        }
        //sorting operation starts:
        for(int i=0;i<size;i++){ //compares i's 0 index with j's 1 index then i's 1 index and j's 2 index..
            for(int j=i+1;j<size;j++){
                if(arr[i]>arr[j]){
                    temp=arr[i]; //swapping operation
                    arr[i]=arr[j];
                    arr[j]=temp;
                }
            }
        }
    }
}
```

```
System.out.println("Sorted array is:");  
for(int i=0;i<size;i++){  
    System.out.print(arr[i]+" ");  
}  
}  
}
```

```
public class ArrSort {  
    //Ascending order  
    public static void main(String[] args) {  
        Sample4 s=new Sample4();  
        s.display();  
    }  
}
```

o/p:



```
Run: ArrSort  
C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=5  
Enter array size:  
4  
Enter array elements:  
5  
2  
8  
7  
Entered array is:  
5  
2  
8  
7  
Sorted array is:  
2 5 7 8  
Process finished with exit code 0  
|
```

4. Given an array containing value between 1 and n , the array is not sorted and one the value is missing find out the value that is missing



for example

1, 4, 6, 2, 3, 8, 7

In the above array contains numbers from 1 to 8, the missing out number is 5

Program:

```
package com.desmond.javatask;
```

```
import java.util.Scanner;
```

```
class Sample5{
```

```
    void display(){
```

```
        int size;//declared array size
```

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

```
        System.out.println("enter array size:");
```

```
        size=input.nextInt();//init array size
```

```
        int arr[]=new int[size];//declared array elements
```

```
        System.out.println("Enter n-1 elements:");
```

```
        for(int i=0;i<=size-2;i++){
```

```
            arr[i]=input.nextInt(); //init array elements
```

```
        }
```

```
        //finding missing no operation:
```

```
        int sumAll=(size*(size+1))/2; //15 so, 1+2+3+4+5=15 (eg:5 as size)
```

```
        int sumArray=0;
```

```
        for(int i=0;i<=size-2;i++){
```

```
            sumArray=sumArray+arr[i]; //1+2+3+4+5=15 =sumArray
```

```
            //sumAll=1,2,4,5(input from user)=12
```

```
        }
```

```
        int missingNo=sumAll-sumArray; //15-12=3
```

```
        System.out.println("missing number is:"+missingNo);
```

```
    }
```

```

}

public class MissingNoinArray {

    public static void main(String[] args) {

        Sample5 s=new Sample5();

        s.display();

    }

}

```

o/p:



```

Run: MissingNoinArray
C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53
enter array size:
4
Enter n-1 elements:
1
3
4
missing number is:2
Process finished with exit code 0

```

5. Consider two arrays that contains the arrival and departure time of trains in a station find out the minimum number of platform should be available so that no train will be waiting to get a platform

example

```
int [] arrival ={10:20,11:00,11:10,12:40,12:15,12:30}
```

```
int [] departure ={10:40,11:20,12:00,12:50,13:20,12:45}
```

in the above example the first array containt the arrival time of all trains and the

second array contains the departure time of the trains in the same order of the arrival times

that is index 0 in arrival array contains of a arraival time of a train and the index 0 in departure array contain the departure time of the same trains and so on..



Program:

```
package com.desmond.javatask;
```

```
import java.util.Arrays;
```

```
class T{
```

```
    int findPlatforms1(double arr[], double dep[], int n)
```

```
    {
```

```
        int platform_needed = 0, m= 0;
```

```
        Arrays.sort(arr);
```

```
        Arrays.sort(dep);
```

```
        int i = 0, j = 0;
```

```
        while (i < n && j < n)
```

```
        {
```

```
            if (arr[i] < dep[j])
```

```
            {
```

```
                platform_needed++;
```

```
                i++;
```

```
                if (platform_needed > m)
```

```
                    m = platform_needed;
```

```
            }
```

```
        else
```

```
        {
```

```
            platform_needed--;
```

```
            j++;
```

```
        }
```

```
    }
```

```
    return m;
```

```
}
```



```

}

public class NewTrainsArr {

    public static void main(String[] args) {

        double arr[] = {12.20, 11.00, 11.10, 12.40, 12.15, 12.30};

        double dep[] = {10.40, 11.20, 12.00, 12.50, 13.20, 12.45};

        T ob=new T();

        System.out.println("Minimum number of platform required is:");

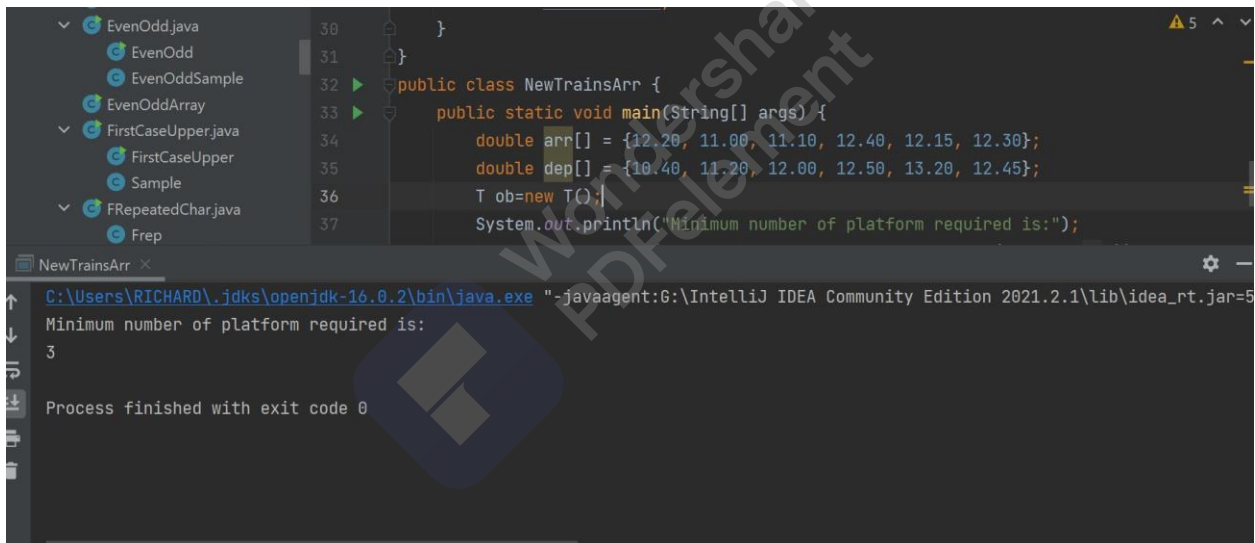
        System.out.println(ob.findPlatforms1(arr,dep,6));

    }

}

```

o/p:



```

30 }
31 }
32 public class NewTrainsArr {
33     public static void main(String[] args) {
34         double arr[] = {12.20, 11.00, 11.10, 12.40, 12.15, 12.30};
35         double dep[] = {10.40, 11.20, 12.00, 12.50, 13.20, 12.45};
36         T ob=new T();
37         System.out.println("Minimum number of platform required is:");

```

Minimum number of platform required is:
3

Process finished with exit code 0

6. Read a number as input and display all the pairs in array which will sum up to the given input:

Program:

```
package com.desmond.javatask;
```

```
import java.util.Scanner;
```

```

class Sample6{

    void display(){

```



```
int size,sum=0;//declared size

Scanner input=new Scanner(System.in);

System.out.println("Enter array size:");

size=input.nextInt();//init size


int arr[]=new int[size];//decl array elements

System.out.println("enter array elements: ");

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

    arr[i]=input.nextInt();//init array elements

    sum=sum+arr[i];

}

System.out.println(sum);

}

}

class SuminputArr {

    public static void main(String[] args) {

        Sample6 s=new Sample6();

        s.display();

    }

}
```

o/p:

```
C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53
Enter array size:
5
enter array elements:
5
2
9
6
1
23

Process finished with exit code 0
|
```



7. In an array find the maximum number of consecutive occurrence value

example: 1,2,3,3,4,5,6,7,7,7,8,9,9,9,9

In the above example 9 is the maximum consecutive occurrence

Program:

```
package com.desmond.javatask;
```

```
class consec{
```

```
    int display(int ar[],int n) {
```

```
        int count = 0;
```

```
        for (int i = 0; i < n - 1; i++) {
```

```
            if (ar[i] == ar[i + 1]) {
```

```
                count++;
```

```
            }
```

```
        }
```

```
        return count;
```

```
    }
```

```
}
```

```
public class Consecnum {
```

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

```
        int ar[]={1,2,2,3,4,4,5,5,5,5};
```

```
        int n=ar.length;
```

```
        consec c=new consec();
```

```
        System.out.println("Consecutively occurred number is:");
```

```
        System.out.println(c.display(ar,n));
```

```
    }
```

```
}
```

o/p:

The screenshot shows the IntelliJ IDEA IDE. On the left, the Project Explorer displays a list of files: Sample4, CommonElemInArr, Consecnum.java, consec, Consecnum, Ebbill, EvenOdd.java, EvenOdd, EvenOddSample, EvenOddArray, FirstCaseUpper.java, and FirstCaseUpper. The main editor window shows the code for the `Consecnum` class. The code defines a `main` method that takes an array of integers, finds the length, creates a `consec` object, and prints the result. The output window at the bottom shows the command executed: `C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe -javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53`, followed by the output: `Consecutively occurred number is: 5` and `Process finished with exit code 0`.

```

13 }
14 public class Consecnum {
15     public static void main(String[] args) {
16         int ar[]={1,2,2,3,4,4,5,5,5};
17         int n=ar.length;
18         consec c=new consec();
19         System.out.println("Consecutively occurred number is:");
20         System.out.println(c.display(ar,n));
21     }
22 }
23

```

Consecnum x

C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe -javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53

Consecutively occurred number is:
5

Process finished with exit code 0

8. Read a number form the keyboard and display it in words:

Program:

package com.desmond.javatask;

import java.util.Scanner;

class Sample8{

void disp(){

Scanner in =new Scanner(System.in);

System.out.println("Enter the number:");

int n=in.nextInt();

if(n<1 || n>999) {

System.out.println("Wrong Input,Sorry");

}

else

{

int u=n%10;//last digit

int tt=n/10;



```
int t=tt%10;//second digit

int h=n/100;

String
uw[]={"","One","Two","Three","Four","Five","Six","Seven","Eight","Nine","Ten","Eleven","Twelve","Thirt
een","Fourteen","Fifteen","Sixteen","Seventeen","Eighteen","Nineteen"};

String tw[]={"","Ten","Twenty","Thirty","Fourty","Fifty","Sixty","Seventy","Eighty","Ninety"};

String hw=" Hundred ";

if(n<20)//till 19

    System.out.println(uw[n]);

else if(n<100)//till 99

    System.out.println(tw[t]+" "+uw[u]);

else //from 100 to 999

    System.out.println(uw[h]+hw+tw[t]+" "+uw[u]);

}

}

}

class numberwords
{
    public static void main(String args [])
    {
        Sample8 t=new Sample8();

        t.disp();

    }
}
```

o/p:



```

C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53
Enter the number:
531
Five Hundred Thirty One
Process finished with exit code 0

```

9. In an array of values display a element that will be sum if all the other elements:

Program:

```
package com.desmond.javatask;
```

```
class SumTo{
```

```
    void sumPair(int[] nums,int tar){
```

```
        for(int i=0;i<nums.length-1;i++){
```

```
            for(int j=i+1;j<nums.length;j++){
```

```
                if(nums[i]+nums[j]==tar){
```

```
                    System.out.println("pair found:"+nums[i]+","+nums[j]);
```

```
                return;
```

```
            }
```

```
        }
```

```
    }
```

```
    System.out.println("pair not found");
```

```
}
```

```
}
```

```
public class SumtogivenVal {
```

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

```
        int[]nums={2,5,7,8,1,3};
```

```
        int tar=3;
```

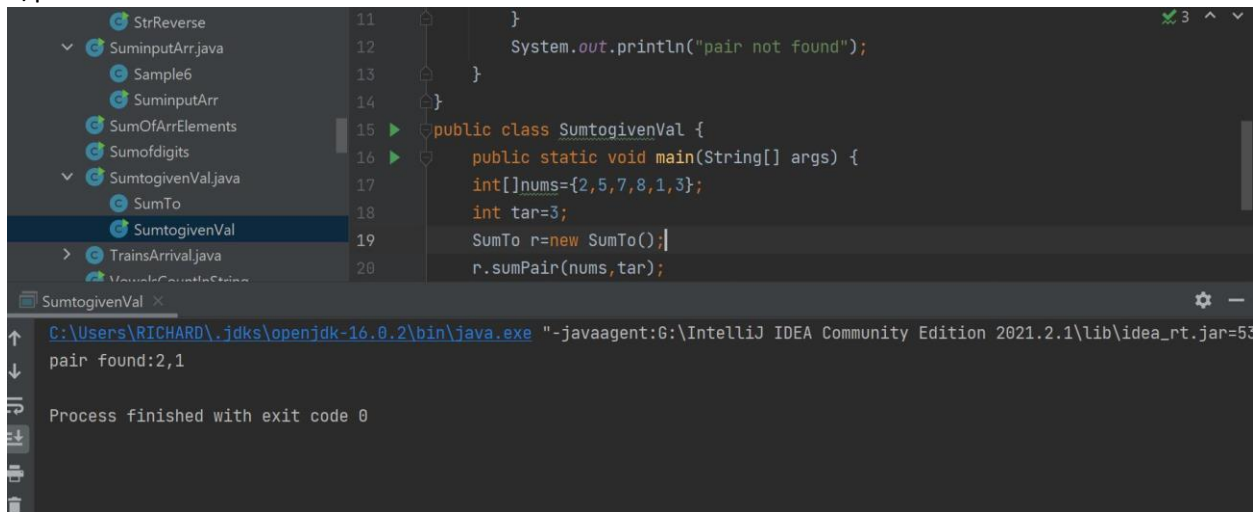
```
        SumTo r=new SumTo();
```

```
        r.sumPair(nums,tar);
```

```
    }
```

```
}
```

o/p:



The screenshot shows the IntelliJ IDEA IDE. On the left, a project explorer lists several Java files, with 'SumtogivenVal' selected. The main editor displays the code for 'SumtogivenVal.java':

```

11     }
12     System.out.println("pair not found");
13 }
14 }
15 public class SumtogivenVal {
16     public static void main(String[] args) {
17         int[] nums={2,5,7,8,1,3};
18         int tar=3;
19         SumTo r=new SumTo();
20         r.sumPair(nums,tar);

```

Below the code editor, the 'Run' tab shows the command used to execute the program:

```

C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:G:\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=53

```

The output of the program is displayed as:

```

pair found:2,1

```

At the bottom, it states: "Process finished with exit code 0".

10. Write a program that can generate random password , the password should contain alphabets and numbers and 10 characters length:

Program:

```
package com.desmond.javatask;
```

```
import java.security.SecureRandom;
```

```
class Random{
```

```
}
```

```
public class RandomPwd {
```

```
    public static String generateRand(int len)
```

```
{
```

```
    final String chars = "ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789";
```

```
    SecureRandom random = new SecureRandom();
```

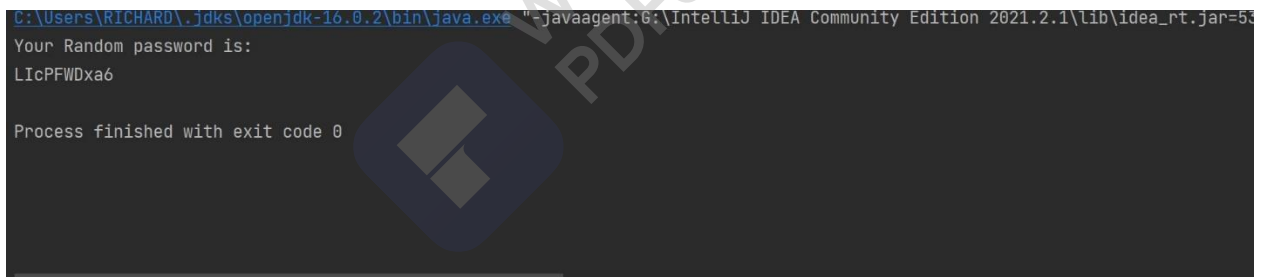
```
    StringBuilder sb = new StringBuilder();
```

```
    for (int i= 0;i<len;i++)
```



```
{  
    int randomIndex = random.nextInt(chars.length());  
    sb.append(chars.charAt(randomIndex));  
}  
  
return sb.toString();  
}  
public static void main(String[] args)  
{  
    int len = 10;  
    System.out.println("Your Random password is:");  
    System.out.println(generateRand(len));  
}  
}
```

o/p:



```
C:\Users\RICHARD\.jdk\openjdk-16.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021.2.1\lib\idea_rt.jar=5380:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021.2.1\bin\javaagent.jar" -Dfile.encoding=UTF-8  
Your Random password is:  
LIcPFWDxa6  
  
Process finished with exit code 0
```