# Design and Analysis of Algorithm Lab6

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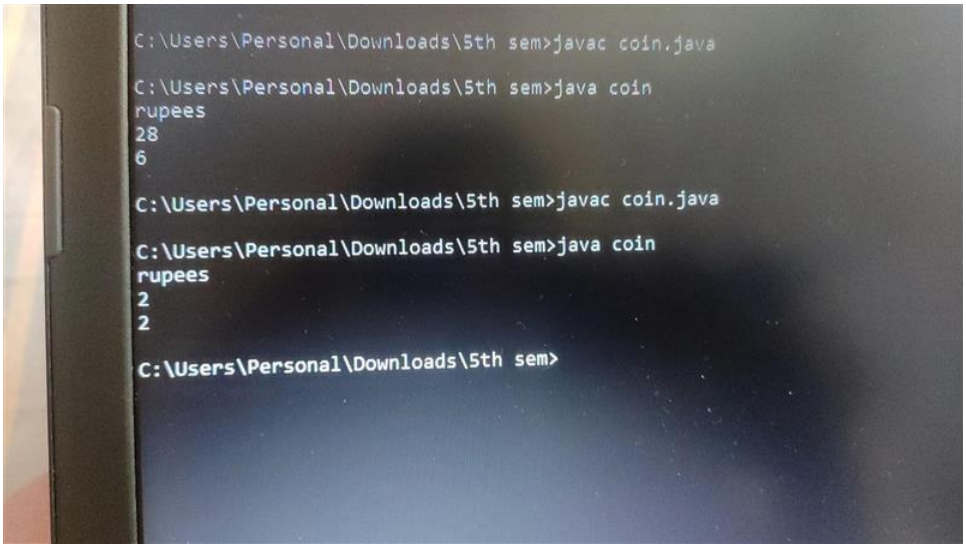
## Money change:

**Code:**

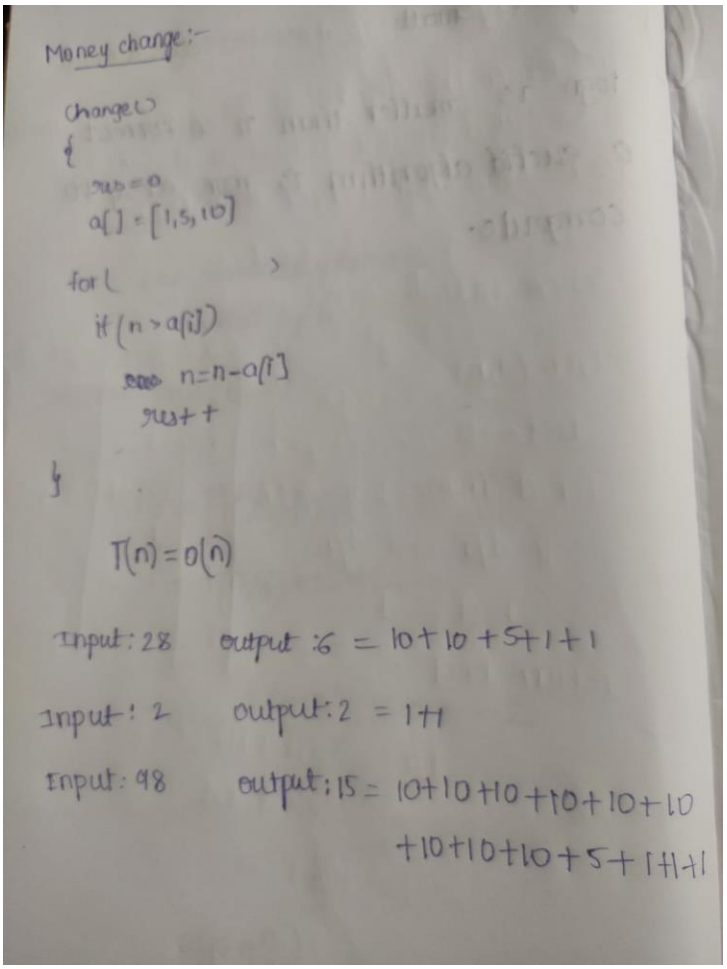
```
import java.util.*;
public class coin{
public static void main(String args[]){
Scanner sc=new Scanner(System.in);
System.out.println("rupees");
int r=sc.nextInt();
int count=0;
while(r>=10)
{
  r=r-10;
  count++;
}
while(r>=5)
{
  r=r-5;
  count++;
}
while(r>=1)
{
```

```
  r=r-1;
  count++;
}
System.out.println(+count);
}
}
```

**Output:**




**Asymptotic Analysis:**




# Maximum revenue Ad:

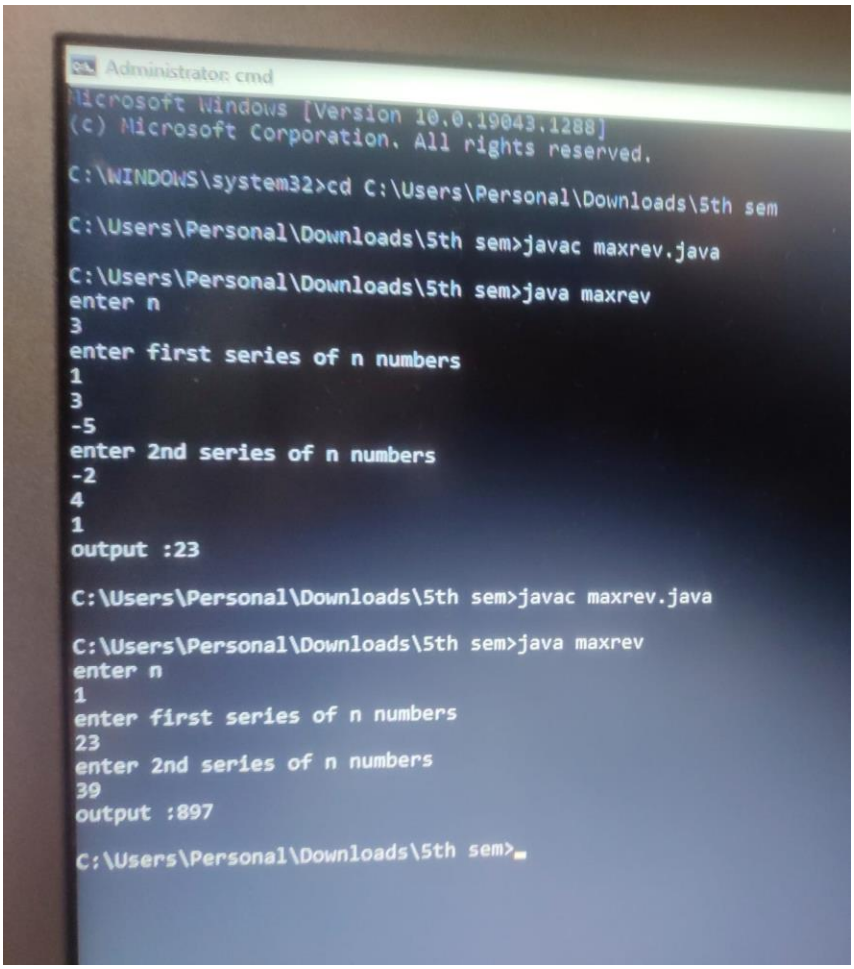
**Code:**

```
import java.util.*;
public class maxrev{
public static void main(String args[]){
Scanner sc=new Scanner(System.in);
System.out.println("enter n");
int n=sc.nextInt();
System.out.println("enter first series of n numbers");
int a[]=new int[n];
```

```
int b[]=new int[n];
for(int i=0;i<n;i++)
{
  a[i]=sc.nextInt();
}
System.out.println("enter 2nd series of n numbers");
for(int j=0;j<n;j++)
{
  b[j]=sc.nextInt();
}
int res=0;
Arrays.sort(a);
Arrays.sort(b);

for (int i=0;i<n;i++)
{
  res=res+(a[i]*b[i]);
}
System.out.println("output :" +res);
}
}
```

**Output:**


Administrator: cmd
Microsoft Windows [Version 10.0.19043.1288]
(c) Microsoft Corporation. All rights reserved.
C:\WINDOWS\system32>cd C:\Users\Personal\Downloads\5th sem
C:\Users\Personal\Downloads\5th sem>javac maxrev.java
C:\Users\Personal\Downloads\5th sem>java maxrev
enter n
3
enter first series of n numbers
1
3
-5
enter 2nd series of n numbers
-2
4
1
output :23
C:\Users\Personal\Downloads\5th sem>javac maxrev.java
C:\Users\Personal\Downloads\5th sem>java maxrev
enter n
1
enter first series of n numbers
23
enter 2nd series of n numbers
39
output :897
C:\Users\Personal\Downloads\5th sem>

## Analysis:

Maximum Revenue:-

```
MaxRev()
{
  res = 0
  a[], b[]
  Arrays.sort(a)
  Arrays.sort(b)
   for (          )
     res = res + a[i].b[i]

  S.o.P(res)
}
```

T(n) = O(n)

Input : 3
1 3 -5
-2 4 1

Output : 23
1 3 -5
4 1 -2
1×4 + 3×1 + (-5)×(-2) = 23

Input : 1
23
39

output = 897
23×39 = 897