

Name: Abhay Sharma
Div: C
Roll No: 28 / Div : C
Moddle ID: 20102065

Distributed Computing
Experiment No. 1

AIM: Write a program to demonstrate Load Balancing / Task Assignment Schemes using static load balancer.

Code:

```
import java.util.Scanner;
import java.awt.*;

class LoadBalancer
{
    static void printLoad(int servers,int Processes)
    {
        int each=Processes/servers;
        int extra=Processes%servers;
        int total=0;
        for(int i=0;i<servers;i++)
        {
            if(extra-->0)
                total=each+1;
            else
                total=each;
            System.out.println("Servers "+(char)('A'+i)+ " has "+total+ "Processes");
        }
    }
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the number of servers and Processes: ");
        int servers=sc.nextInt();
        int Processes=sc.nextInt();
        while(true)
        {
            printLoad(servers,Processes);
            System.out.print("\n 1. Add Servers \n 2. Remove Servers\n 3. Add
Processes \n 4. Remove Processes \n 5. Exit \n");
            switch(sc.nextInt())
            {
                case 1: System.out.println("How many more Servers?: ");
                        servers+=sc.nextInt();
                        break;
                case 2: System.out.println("How many Servers to remove? : ");
                        servers-=sc.nextInt();
                        break;
                case 3: System.out.println("How many more Processes?: ");
```

```

        Processes+=sc.nextInt();
        break;
    case 4: System.out.println("How many Processes to remove ?: ");
        Processes-=sc.nextInt();
        break;
    case 5: return;
        }
    }
}

```

Output:

```

oem@oem-HP-ProDesk-400-G7-Microtower-PC:~/Documents/Megha Soni$ java LoadBalancer
Enter the number of servers and Processes:
9
12
Servers A has 2Processes
Servers B has 2Processes
Servers C has 2Processes
Servers D has 1Processes
Servers E has 1Processes
Servers F has 1Processes
Servers G has 1Processes
Servers H has 1Processes
Servers I has 1Processes

```

```

1. Add Servers
2. Remove Servers
3. Add Processes
4. Remove Processes
5. Exit
1
How many more Servers?:
5
Servers A has 1Processes
Servers B has 1Processes
Servers C has 1Processes
Servers D has 1Processes
Servers E has 1Processes
Servers F has 1Processes
Servers G has 1Processes
Servers H has 1Processes
Servers I has 1Processes
Servers J has 1Processes
Servers K has 1Processes
Servers L has 1Processes
Servers M has 0Processes
Servers N has 0Processes

```

```

1. Add Servers
2. Remove Servers
3. Add Processes
4. Remove Processes
5. Exit
3
How many more Processes?:
16
Servers A has 2Processes
Servers B has 2Processes
Servers C has 2Processes
Servers D has 2Processes
Servers E has 2Processes
Servers F has 2Processes
Servers G has 2Processes
Servers H has 2Processes
Servers I has 2Processes
Servers J has 2Processes
Servers K has 2Processes
Servers L has 2Processes
Servers M has 2Processes
Servers N has 2Processes

```

1. Add Servers
2. Remove Servers
3. Add Processes
4. Remove Processes
5. Exit

2

How many Servers to remove? :

6

Servers A has	4Processes
Servers B has	4Processes
Servers C has	4Processes
Servers D has	4Processes
Servers E has	3Processes
Servers F has	3Processes
Servers G has	3Processes
Servers H has	3Processes

1. Add Servers
2. Remove Servers
3. Add Processes
4. Remove Processes
5. Exit

4

How many Processes to remove ?:

8

Servers A has	3Processes
Servers B has	3Processes
Servers C has	3Processes
Servers D has	3Processes
Servers E has	2Processes
Servers F has	2Processes
Servers G has	2Processes
Servers H has	2Processes

1. Add Servers
2. Remove Servers
3. Add Processes
4. Remove Processes
5. Exit

5

oem@oem-HP-ProDesk-400-G7-Microtower-PC:~/Documents/Megha Soni\$