

Assignment 2

Question :

1. Write a program to implement Water Jug Problem Statement as given below:

Problem Definition: You have to measure 2 liter (L) water by using two buckets 4L and 3L.

Problem Limitation: You can only use these (4L and 3L) buckets and there is no measuring mark on the buckets.

Code:

```
import java.util.*
class Main
{
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);

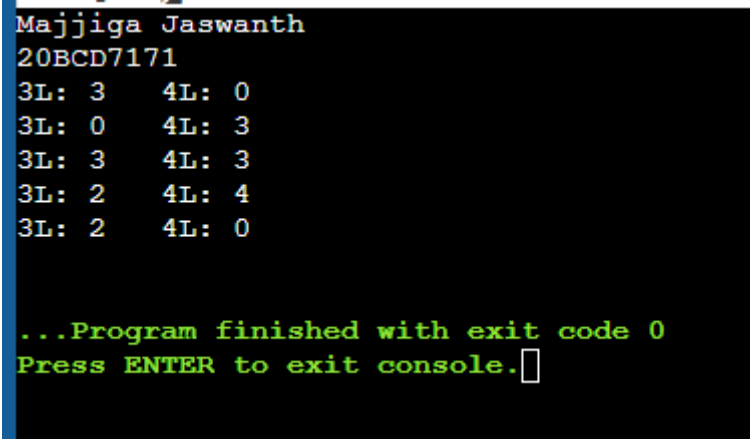
        int j1 = 3, j2 = 4, g = 2;
        int count = j1 + j2;
        int jug1[] = new int[count];
        int jug2[] = new int[count];
        int i = 0;
        jug1[i] = j1;
        jug2[i] = 0;
        i++;
        jug1[i] = 0;
        jug2[i] = j1;
        i++;
        while(i < (count-1)){

            if(jug1[i-1] > 0){
                jug1[i] = jug1[i-1];
                jug2[i] = 0;
            }
            else{
                jug1[i] = j1;
                jug2[i] = jug2[i-1];
            }
            i++;

            if(jug2[i-1] > 0){
                if(jug1[i-1] + jug2[i-1] < j2){
                    break;
                }
            }
            else{
                int temp = jug2[i-1];
                temp = j2 - temp;
                jug2[i] = j2;
                jug1[i] = jug1[i-1] - temp;
            }
        }
        i++;
    }
}
```

```
    for(int j=0; j<i-1; j++){  
        System.out.println("3L: "+jug1[j]+"\\t4L: "+jug2[j]);  
    }  
}  
}
```

output:



The screenshot shows a console window with a black background and a blue vertical bar on the left. The text is displayed in a monospaced font. The first two lines are in red: 'Majjiga Jaswanth' and '20BCD7171'. The next five lines are in white, showing the output of the program: '3L: 3 4L: 0', '3L: 0 4L: 3', '3L: 3 4L: 3', '3L: 2 4L: 4', and '3L: 2 4L: 0'. The final two lines are in green: '...Program finished with exit code 0' and 'Press ENTER to exit console.' followed by a small white square cursor.

```
Majjiga Jaswanth  
20BCD7171  
3L: 3    4L: 0  
3L: 0    4L: 3  
3L: 3    4L: 3  
3L: 2    4L: 4  
3L: 2    4L: 0  
  
...Program finished with exit code 0  
Press ENTER to exit console.□
```