Assignment No : 2

* Problem Statement:

Implement constraint satisfaction problem.

**Code:-**

import java.util.\*;

public class Assignment2 {

static int im = 3, ic = 3, fm = 0, fc = 0, flag = 0, select = 0;

static void display(char bpass1, char bpass2) {

System.out.println("\n\n\n");

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

System.out.print(" M ");

}

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

System.out.print(" C ");

}

if (flag == 0)

System.out.print(" \_\_\_WATER\_\_\_\_B0(" + bpass1 + "," + bpass2 + ")AT ");

else

System.out.print(" BO(" + bpass1 + "," + bpass2 + ")AT\_\_\_\_\_WATER\_\_\_\_ ");

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

System.out.print(" M ");

}

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

System.out.print(" C ");

}

}

static boolean win() {

return !(fc == 3 && fm == 3);

}

static void solution() {

while (win()) {

if (flag == 0) {

switch (select) {

case 1:

display('C', ' ');

ic++;

break;

case 2:

display('C', 'M');

ic++;

im++;

break;

}

if (((im - 2) >= ic && (fm + 2) >= fc) || (im - 2) == 0) {

im = im - 2;

select = 1;

display('M', 'M');

flag = 1;

} else if ((ic - 2) < im && (fm == 0 || (fc + 2) <= fm) || im == 0) {

ic = ic - 2;

select = 2;

display('C', 'C');

flag = 1;

} else if ((ic--) <= (im--) && (fm++) >= (fc++)) {

ic = ic - 1;

im = im - 1;

select = 3;

display('M', 'C');

flag = 1;

}

} else {

switch (select) {

case 1:

display('M', 'M');

fm = fm + 2;

break;

case 2:

display('C', 'C');

fc = fc + 2;

break;

case 3:

display('M', 'C');

fc = fc + 1;

fm = fm + 1;

break;

}

if (win()) {

if (((fc > 1 && fm == 0) || im == 0)) {

fc--;

select = 1;

display('C', ' ');

flag = 0;

} else if ((ic + 2) > im) {

fc--;

fm--;

select = 2;

display('C', 'M');

flag = 0;

}

}

}

}

}

public static void main(String[] args) {

System.out.println("MISSIONARIES AND CANNIBALS");

display(' ', ' ');

solution();

display(' ', ' ');

System.out.println("\n\n");

}

}

**Output:-**





