

Assignment

```
import java.util.*;

public class Program
{
    public void nextGrid(int grid[][], int r, int c,int grid1[][])
    {
        for (int l = 1; l < r - 1; l++)                // Looping through every cell
        {
            for (int m = 1; m < c - 1; m++)
            {
                int alive_Neighbours = 0;                // finding no Of Neighbours that are alive
                for (int i = -1; i <= 1; i++)
                {
                    for (int j = -1; j <= 1; j++)
                    {
                        alive_Neighbours += grid[l + i][m + j];
                    }
                }

                if ((grid[l][m] == 1) && (alive_Neighbours < 2))        // Cell is lonely and dies
                {
                    grid1[l][m] = 0;
                }
                else if ((grid[l][m] == 1) && (alive_Neighbours > 3))    // Cell dies due to overcrowding
                {
                    grid1[l][m] = 0;
                }
                else if ((grid[l][m] == 0) && (alive_Neighbours == 3))    // A new cell is born
                {
                    grid1[l][m] = 1;
                }
                else
                {
                    grid1[l][m] = grid[l][m];                // Remains the same
                }
            }
        }
    }
}
```

```

for (int i = 0; i < r; i++)
{
    for (int j = 0; j < c; j++)
    {
        System.out.print(grid1[i][j] + "\t");
    }
    System.out.println();
}
}

```

```

public void checkStatus(int grid1[][])
{
    System.out.println("=====Enter cell you want to Check:=====");
    System.out.println("Enter row you want to Check:");
    int cell1=sc.nextInt();                                //Input

    System.out.println("Enter col you want to Check ");
    int cell2=sc.nextInt();                                //Input

    if(grid1[cell1][cell2]==1)
        System.out.println("cell status is live.");
    else
        System.out.println("cell status is dead.");
}

```

```
}
```

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

```
{
```

```
    Program s1=new Program ();
```

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

```
    int r=10,c=10;
```

```
    char choice;
```

```
    int ch;
```

```
    int[][] grid= { { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },           //initializing the grid
```

```
        { 0, 0, 0, 1, 1, 0, 0, 0, 0, 0 },
```

```
        { 0, 0, 0, 0, 1, 0, 0, 0, 0, 0 },
```

```
        { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
```

```
        { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
```

```
        { 0, 0, 0, 1, 1, 0, 0, 0, 0, 0 },
```

```
        { 0, 0, 1, 1, 0, 0, 0, 0, 0, 0 },
```

```
        { 0, 0, 0, 0, 0, 1, 0, 0, 0, 0 },
```

```
        { 0, 0, 0, 0, 1, 0, 0, 0, 0, 0 },
```

```
        { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 }
```

```
    };
```

```
    int grid1[][] = new int[r][c];
```

```
do
```

```
{
```

```
System.out.println("Game of life:");

System.out.println("\n1.Get Next State\n2. check cell");

System.out.println("Please Enter Your Choice ");

ch=sc.nextInt();

switch(ch)
{
    case 1 :
        s1.nextGrid(grid,r,c,grid1);
        break;

    case 2 :
        s1.checkStatus(grid1);
        break;

    default:
        System.out.println("Wrong Choice");
}

System.out.println("Do you want to continue:Press(y | | n)");

choice=sc.next().charAt(0);

}while(choice=='y');

}

}
```

cmd Command Prompt

```
C:\Users\HPWorld\Desktop\Java\company>javac Program.java
```

```
C:\Users\HPWorld\Desktop\Java\company>java Program
```

```
=====Game of life=====:
```

```
1.Get Next State
```

```
2. check cell
```

```
Please Enter Your Choice
```

```
1
```

0	0	0	0	0	0	0	0	0	0
0	0	0	1	1	0	0	0	0	0
0	0	0	1	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	1	0	1	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0
0	0	0	1	1	1	0	0	0	0
0	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

```
Do you want to continue:Press(y || n)
```

```
y
```

```
=====Game of life=====:
```

```
1.Get Next State
```

```
2. check cell
```

```
Please Enter Your Choice
```

```
2
```

```
=====Enter cell you want to Check:=====
```

```
Enter row you want to Check:
```

```
1
```

```
Enter col you want to Check
```

```
3
```

```
cell status is live.
```

```
Do you want to continue:Press(y || n)
```

```
n
```