

## 2.1 Write a program to print the following pattern

## 2.2 Code with Comments

```
package assignments;

import java.util.Scanner;

public class PrintingX {

    public static void main(String[] args) {

        //Getting the size using scanner
        Scanner scan=new Scanner(System.in);
        System.out.println("Enter the size");
        int size=scan.nextInt();
        //To print x in crossed pattern
        char display='x';

        //Using nested for loop for iteration
        for (int row = 0; row < size; row++) {
            for (int col = 0; col < size; col++) {
                //Checking the condition if it is true going to if loop
                if (row == col || row + col == size - 1) {
                    System.out.print(display);
                }
                //If condition is false then enter into else loop
                else {
                    System.out.print(" ");
                }
            }
            //finally printing the result
            System.out.println();
        }
    }
}
```

## 2.3 Explanation of the code

The diagonal from (0,0) to (4,4), indices are the same in the code this means (row == col) Also in the diagonal from (0,4) to (4,0) indices always sum up to 4, which is size - 1 this is row + col == size - 1. So using nested loop, On each iteration checking if the conditions mentioned above are met. The logical OR (||) operator is used check the condition in the same if loop itself not required another if loop.

## 2.4 Output

```
5 public class PrintingX {
6
7     public static void main(String[] args) {
8
9         //Getting the size using scanner
10        Scanner scan=new Scanner(System.in);
11        System.out.println("Enter the size");
12        int size=scan.nextInt();
13        //To print x in crossed pattern
14        char display='x';
15
16        //Using nested for loop for iteration
17        for (int row = 0; row < size; row++) {
18            for (int col = 0; col < size; col++) {
19                //Checking the condition if it is true going to if loop
20                if (row == col || row + col == size - 1) {
21                    System.out.print(display);
22                }
23                //If condition is false then enter into else loop
24                else {
25                    System.out.print(" ");
26                }
27            }
28        }
29    }
30 }
```

Console

<terminated> PrintingX [Java Application] C:\Program Files\Java\jre-10.0.1\bin\javaw.exe (21-Nov-2018, 5:41:34 PM)

Enter the size

5

```
x  x
x x
 x
x x
x  x
```