

**LAPORAN TUGAS**  
**ALGORITMA PEMROGRAMAN**

**“PERULANGAN FOR”**

**DISUSUN OLEH:**

**NABIL FIKRI**

**2511533011**

**DOSEN PENGAMPU:**

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**ASISTEN PRAKTIKUM:**

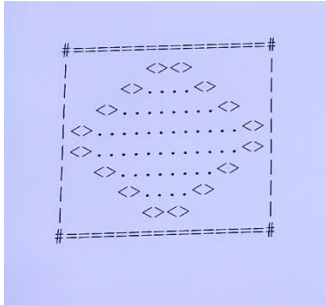
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Pada pekan5 ini, mahasiswa diberikan tugas kode program java dengan output sebagai berikut :



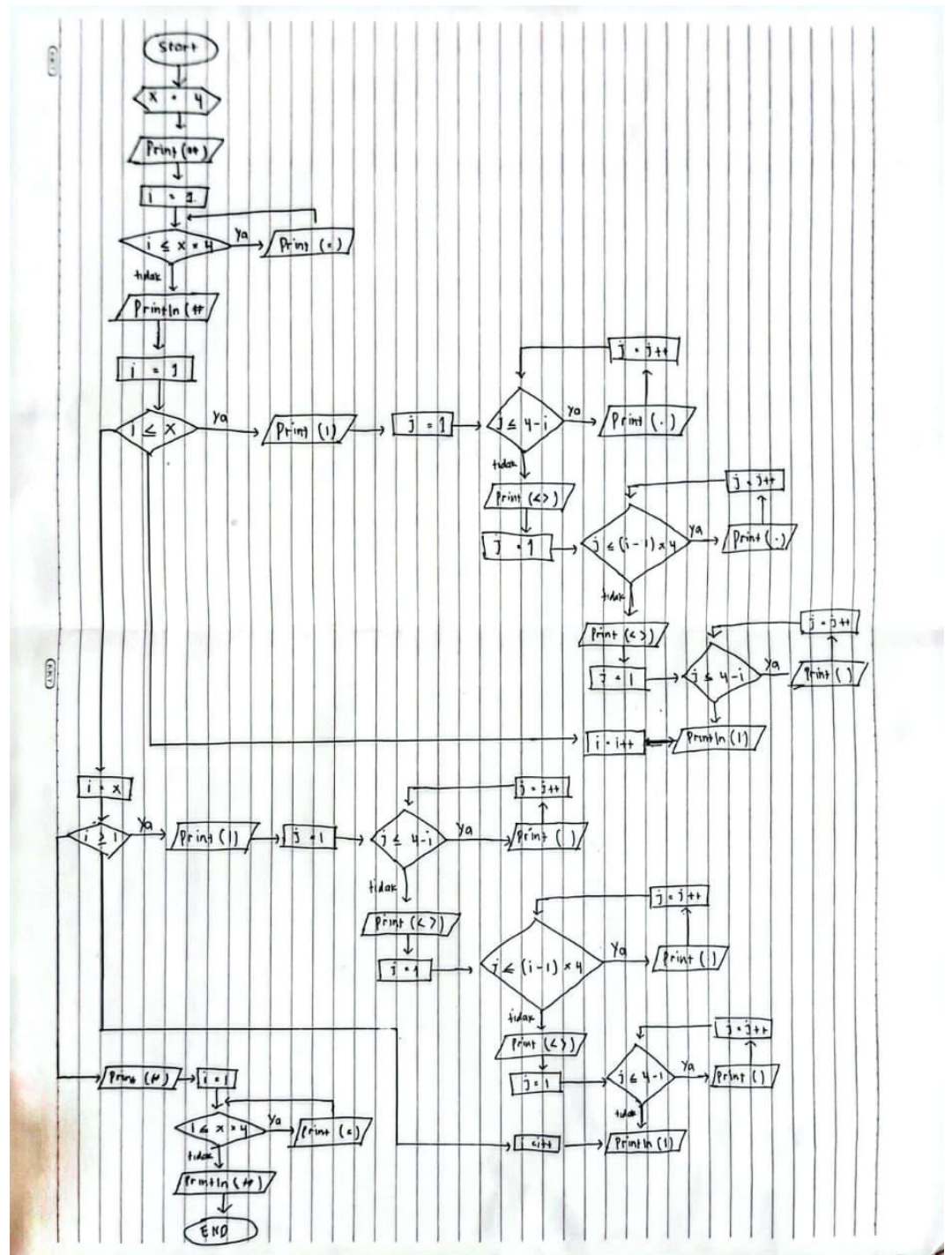
Beberapa tugas yang diminta :

1. Buatlah program java dengan menggunakan Perulangan *for* dan *nested for*!
2. Buatlah flowchart secara manual dengan ditulis tangan !
3. Buatlah Pseudocode program tersebut !

## 1. Kode Program Java

```
1 package pekan5_2511533011;
2
3 public class tugaspekan5 {
4
5     public static void main(String[] args) {
6         int x = 4;
7
8         System.out.print("#");
9         for ( int i= 1; i<=x*4; i++) {
10             System.out.print("=");
11         }
12         System.out.println("#");
13
14         for (int i= 1; i<=x; i++) {
15             System.out.print("|");
16             for (int j=1; j<=4-i; j++) {
17                 System.out.print(" ");
18             }
19             System.out.print("<>");
20             for (int j=1; j<=(i-1)*4; j++) {
21                 System.out.print(".");
22             }
23             System.out.print("<>");
24             for (int j=1; j<= 4-i; j++) {
25                 System.out.print(" ");
26             }
27             System.out.println("|");
28         }
29
30         for (int i= x; i>=1; i--) {
31             System.out.print("|");
32             for (int j=1; j<=4-i; j++) {
33                 System.out.print(" ");
34             }
35             System.out.print("<>");
36             for (int j=1; j<=(i-1)*4; j++) {
37                 System.out.print(".");
38             }
39             System.out.print("<>");
40             for (int j=1; j<= 4-i; j++) {
41                 System.out.print(" ");
42             }
43             System.out.println("|");
44         }
45
46         System.out.print("#");
47         for ( int i= 1; i<=x*4; i++) {
48             System.out.print("=");
49         }
50         System.out.println("#");
51
52     }
53 }
```

## 2. Flowchart



### 3. Pseudocode

**Judul**

Gambar menyerupai pola belah ketupat  
{ Menghasilkan output seperti pola belah ketupat dengan menggunakan perulangan for }

**Deklarasi**

Int x, i, j : integer

**Pseudocode**

```
BEGIN
  SET x ← 4
  OUTPUT "#"
  FOR i ← 1 TO x * 4 DO
    OUTPUT "=" WITHOUT NEWLINE
  END FOR
  OUTPUT "#" WITH NEWLINE
  FOR i ← 1 TO x DO
    OUTPUT "|" WITHOUT NEWLINE

    FOR j ← 1 TO (4 - i) DO
      OUTPUT " " WITHOUT NEWLINE
    END FOR

    OUTPUT "<" WITHOUT NEWLINE

    FOR j ← 1 TO (i - 1) * 4 DO
      OUTPUT "." WITHOUT NEWLINE
    END FOR

    OUTPUT ">" WITHOUT NEWLINE

    FOR j ← 1 TO (4 - i) DO
      OUTPUT " " WITHOUT NEWLINE
    END FOR

    OUTPUT "|" WITH NEWLINE
  END FOR
  FOR i ← x DOWNTO 1 DO
    OUTPUT "|" WITHOUT NEWLINE

    FOR j ← 1 TO (4 - i) DO
      OUTPUT " " WITHOUT NEWLINE
    END FOR
```

OUTPUT "<>" WITHOUT NEWLINE

FOR  $j \leftarrow 1$  TO  $(i - 1) * 4$  DO

    OUTPUT "." WITHOUT NEWLINE

END FOR

OUTPUT "<>" WITHOUT NEWLINE

FOR  $j \leftarrow 1$  TO  $(4 - i)$  DO

    OUTPUT " " WITHOUT NEWLINE

END FOR

    OUTPUT "|" WITH NEWLINE

END FOR

OUTPUT "#"

FOR  $i \leftarrow 1$  TO  $x * 4$  DO

    OUTPUT "=" WITHOUT NEWLINE

END FOR

OUTPUT "#" WITH NEWLINE

END