LAPORAN TUGAS

ALGORITMA PEMROGRAMAN

"PERULANGAN FOR"

DISUSUN OLEH:

NABIL FIKRI

2511533011

DOSEN PENGAMPU:
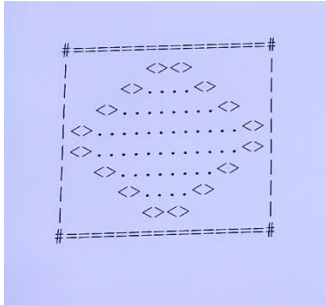
Dr. WAHYUDI, S.T, M.T

ASISTEN PRAKTIKUM:

JOVANTRI IMMANUEL GULO

DEPARTEMEN INFORMATIKA

FAKULTAS TEKNOLOGI INFORMASI

UNIVERSITAS ANDALAS

2025

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

```
#================#
|      <><>      |
|     <>....<>     |
|    <>........<>    |
|<>............<>|
|<>............<>|
|    <>........<>    |
|     <>....<>     |
|      <><>      |
#================#
```
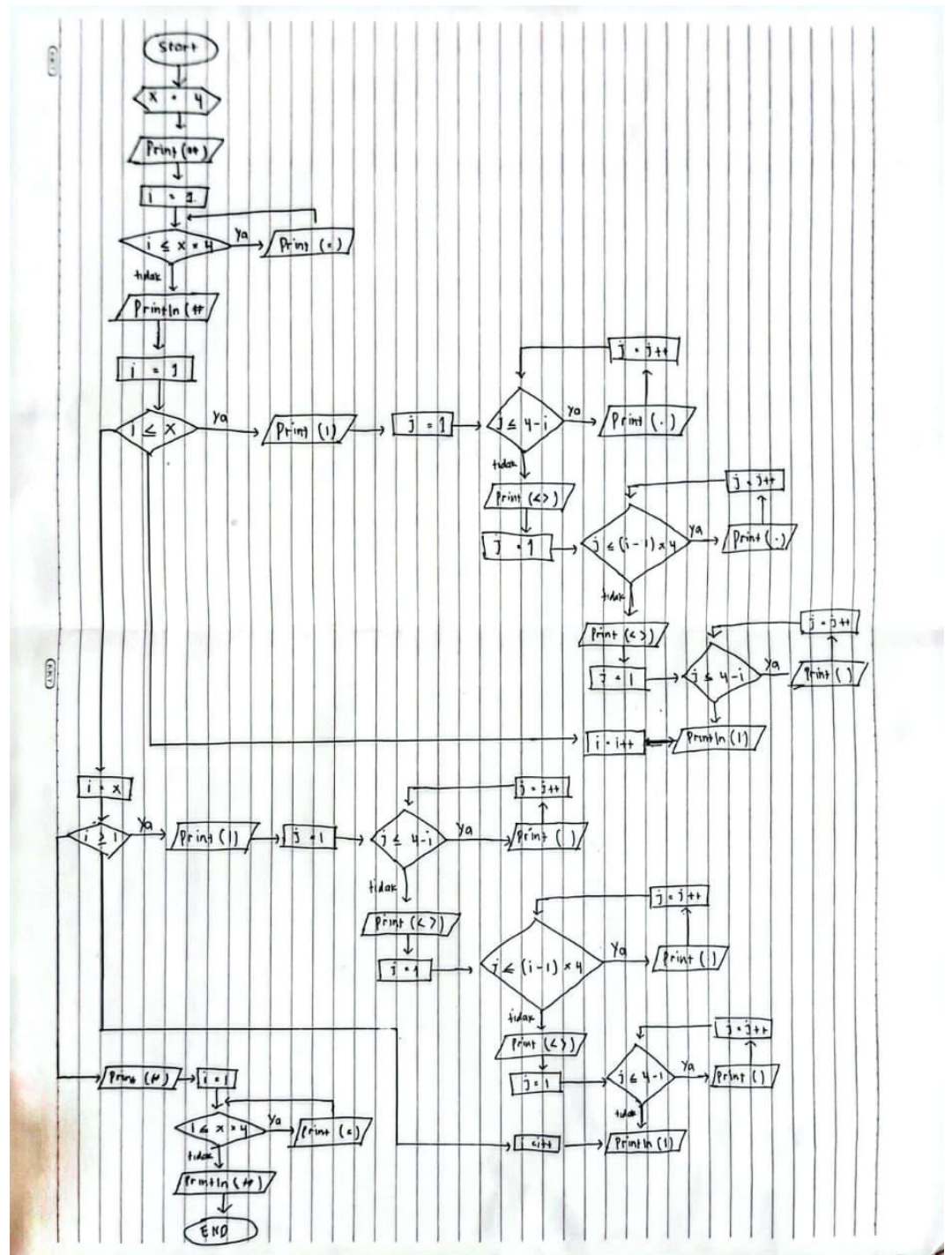
Beberapa tugas yang diminta :

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

```java
package pekan5_2511533011;

public class tugaspekan5 {

    public static void main(String[] args) {
        int x = 4;

        System.out.print("#");
        for ( int i= 1; i<=x*4; i++) {
            System.out.print("=");
        }
        System.out.println("#");

        for (int i= 1; i<=x; i++) {
            System.out.print("|");
            for (int j=1; j<=4-i; j++) {
                System.out.print(" ");
            }
            System.out.print("<>");
            for (int j=1; j<=(i-1)*4; j++) {
                System.out.print(".");
            }
            System.out.print("<>");
            for (int j=1; j<= 4-i; j++) {
                System.out.print(" ");
            }
            System.out.println("|");
        }

        for (int i= x; i>=1; i--) {
            System.out.print("|");
            for (int j=1; j<=4-i; j++) {
                System.out.print(" ");
            }
            System.out.print("<>");
            for (int j=1; j<=(i-1)*4; j++) {
                System.out.print(".");
            }
            System.out.print("<>");
            for (int j=1; j<= 4-i; j++) {
                System.out.print(" ");
            }
            System.out.println("|");
        }

        System.out.print("#");
        for ( int i= 1; i<=x*4; i++) {
            System.out.print("=");
        }
        System.out.println("#");

        }
    }
```

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