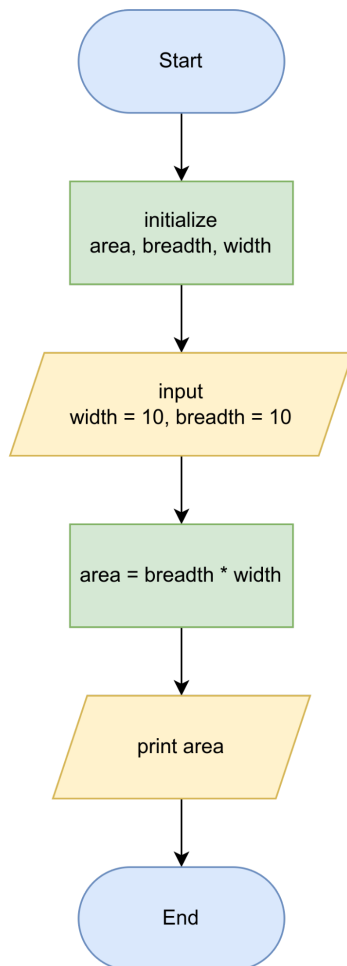# Task

1. Find and print area of square with 10cm breadth and width (pseudocode & flowchart)

Pseudocode
   - Start
   - Initialize area, wide, long
   - Input wide = 10, long = 10
   - Process area = wide * long
   - Print area
   - Stop

Flowchart

```
                    ┌───────────┐
                   (   Start     )
                    └─────┬─────┘
                          │
                          ▼
                    ┌───────────┐
                    │ initialize│
                    │ area,     │
                    │ breadth,  │
                    │ width     │
                    └─────┬─────┘
                          │
                          ▼
                   ╱─────────────╲
                  ╱   input        ╲
                 ╱ width = 10,      ╲
                 ╲ breadth = 10     ╱
                  ╲────────────────╱
                          │
                          ▼
                    ┌───────────┐
                    │ area =    │
                    │ breadth * │
                    │ width     │
                    └─────┬─────┘
                          │
                          ▼
                   ╱─────────────╲
                  ╱  print area   ╲
                  ╲───────────────╱
                          │
                          ▼
                    ┌───────────┐
                   (    End      )
                    └───────────┘
```
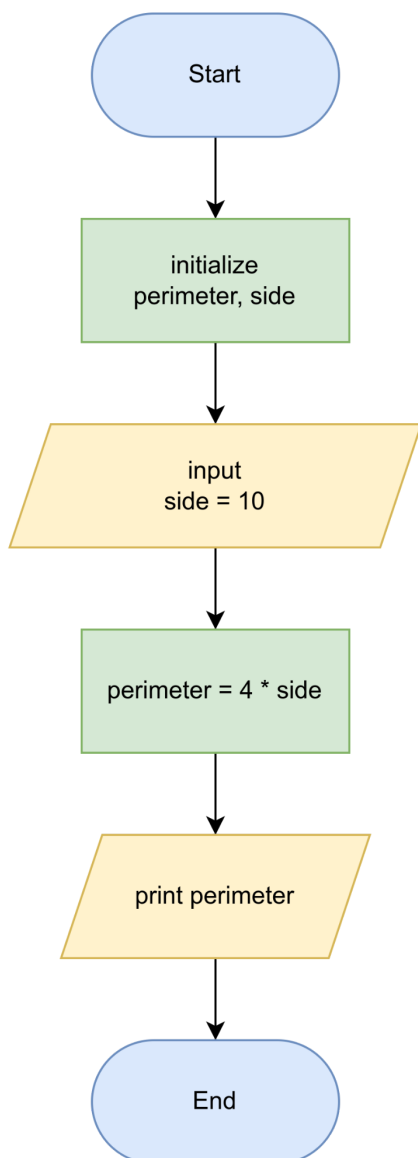
2. Find and print perimeter of square with 10cm side (pseudocode & flowchart)

pseudocode
- Start
- Initialize perimeter, side
- Input side = 10
- Process perimeter = 4 * side
- Print perimeter
- Stop

flowchart

Start

initialize
perimeter, side

input
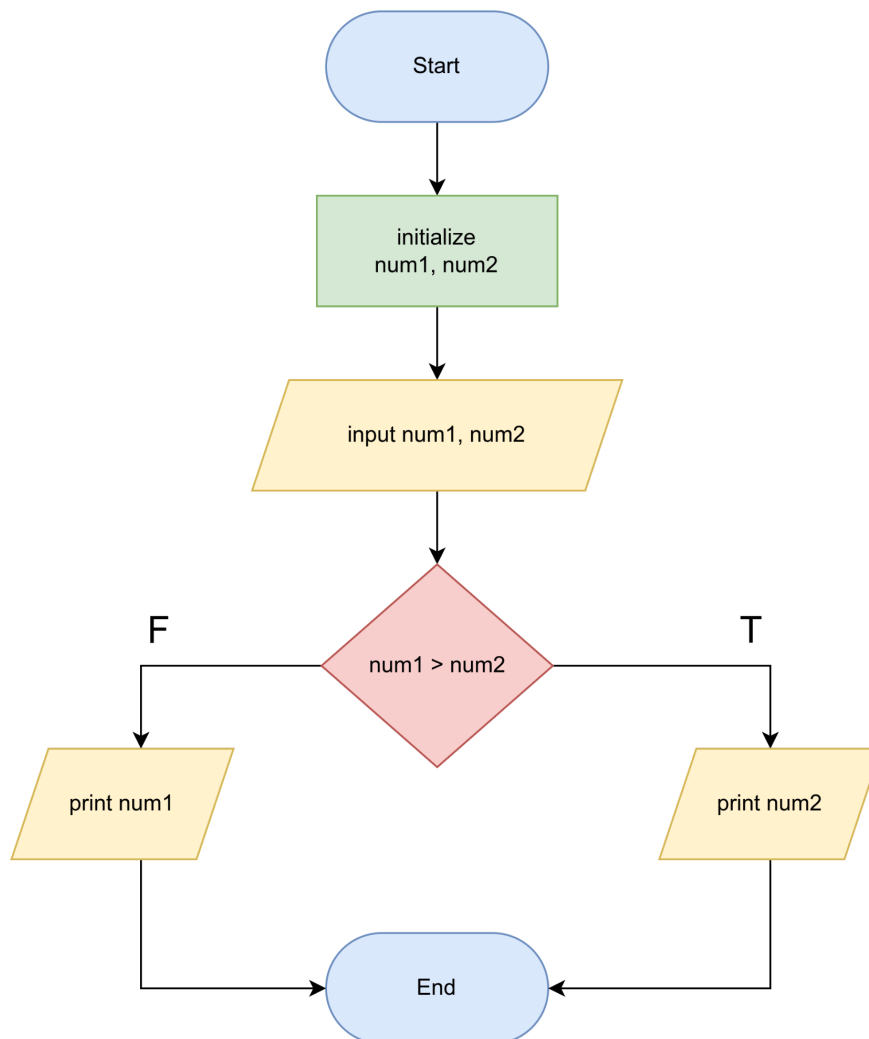side = 10

perimeter = 4 * side

print perimeter

End

3. Create flowchart and pseudocode of a program to find the smallest number with two given different numbers

pseudocode
- Start
- Initialize num1, num2
- Input num1, num2
- if num1 > num2
    then print num2
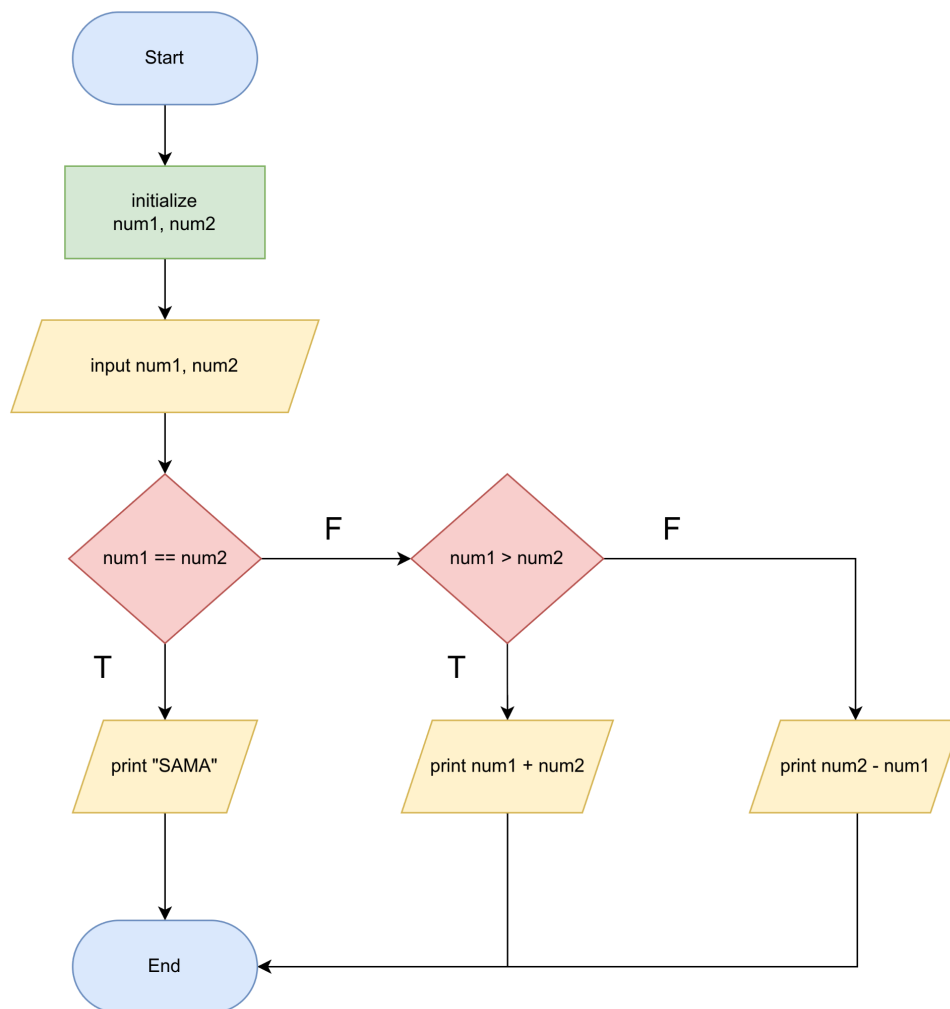 else print num1
- Stop

flowchart

4. Answer

pseudocode
- Start
- Initialize num1, num2
- Input num1, num2
- if num1 == num2 then print "SAMA"
  else if num1 > num2 then print(num1 + num2)
  else then print(num2 - num1)
- Stop

flowchart

```
                    ┌─────────────┐
                    │    Start    │
                    └─────────────┘
                           │
                           ▼
                    ┌─────────────┐
                    │  initialize │
                    │ num1, num2  │
                    └─────────────┘
                           │
                           ▼
                   ┌──────────────────┐
                   │ input num1, num2 │
                   └──────────────────┘
                           │
                           ▼
              ◇ num1 == num2 ◇ ──F──> ◇ num1 > num2 ◇ ──F──>
                     │                      │
                     T                      T
                     ▼                      ▼                    ▼
              ┌─────────────┐       ┌──────────────┐    ┌──────────────────┐
              │ print "SAMA"│       │print num1+num2│    │print num2 - num1 │
              └─────────────┘       └──────────────┘    └──────────────────┘
                     │                      │                    │
                     ▼                      │                    │
              ┌─────────────┐               │                    │
              │     End     │ <─────────────┴────────────────────┘
              └─────────────┘
```

5. Answer

Pseudocode A
- Start
- Input N
- if N > 50 then N = N - 25
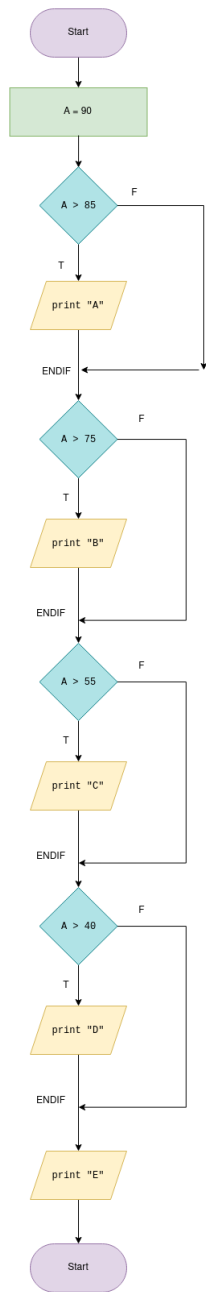- N = N + 10
- Print N
- Stop

Pseudocode B
- Start
- Input N
- if N > 50 then N = N - 25
  else N = N + 10
- Print N
- Stop

What's the output if N is :
- **30**
  Output of flowchart 5-1 is 40
  Output of flowchart 5-2 is 40
- **50**
  Output of flowchart 5-1 is 60
  Output of flowchart 5-2 is 60
- **65**
  Output of flowchart 5-1 is 50
  Output of flowchart 5-2 is 40

6. Answer

Flowchart 6-1

```
        Start
          |
        A = 90
          |
        A > 85 ---F---+
          |T          |
      print "A"       |
          |           |
      ENDIF <---------+
          |
        A > 75 ---F---+
          |T          |
      print "B"       |
          |           |
      ENDIF <---------+
          |
        A > 55 ---F---+
          |T          |
      print "C"       |
          |           |
      ENDIF <---------+
          |
        A > 40 ---F---+
          |T          |
      print "D"       |
          |           |
      ENDIF <---------+
          |
      print "E"
          |
        Start
```

Flowchart 6-2

```
              ┌─────────┐
              │  Start  │
              └────┬────┘
                   │
              ┌────────────┐
              │   A = 90   │
              └─────┬──────┘
                   │              F
              ╱ A > 85 ╲──────────────┐
              ╲        ╱              │
                │ T                   │
           ┌──────────┐               │
           │ print "A"│               │
           └────┬─────┘               │
                │                     │
           ┌──────────┐               │
           │ A = A - 10 │             │
           └────┬─────┘               │
       ENDIF    │◄────────────────────┘
                │              F
              ╱ A > 75 ╲──────────────┐
              ╲        ╱              │
                │ T                   │
           ┌──────────┐               │
           │ print "B"│               │
           └────┬─────┘               │
                │                     │
           ┌──────────┐               │
           │ A = A - 20 │             │
           └────┬─────┘               │
       ENDIF    │◄────────────────────┘
                │              F
              ╱ A > 55 ╲──────────────┐
              ╲        ╱              │
                │ T                   │
           ┌──────────┐               │
           │ print "C"│               │
           └────┬─────┘               │
                │                     │
           ┌──────────┐               │
           │ A = A - 10 │             │
           └────┬─────┘               │
       ENDIF    │◄────────────────────┘
                │              F
              ╱ A > 40 ╲──────────────┐
              ╲        ╱              │
                │ T                   │
           ┌──────────┐               │
           │ print "D"│               │
           └────┬─────┘               │
       ENDIF    │◄────────────────────┘
                │
           ┌──────────┐
           │ print "E"│
           └────┬─────┘
                │
           ┌─────────┐
           │  Start  │
           └─────────┘
```
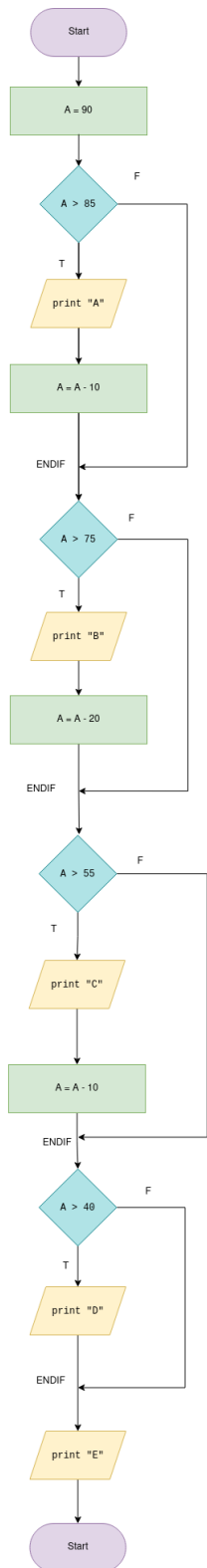
Output from each pseudo code

Flowchart 6 - 1

>> A

>> B

>> C

>> D

>> E

Flowchart 6 - 2

>> A

>> B

>> C

>> D

>> E

>> 50