Qu:1

* Write algorithm and Draw flowchart:-

a) find the average of three numbers a, b, c.

* Algorithm :-

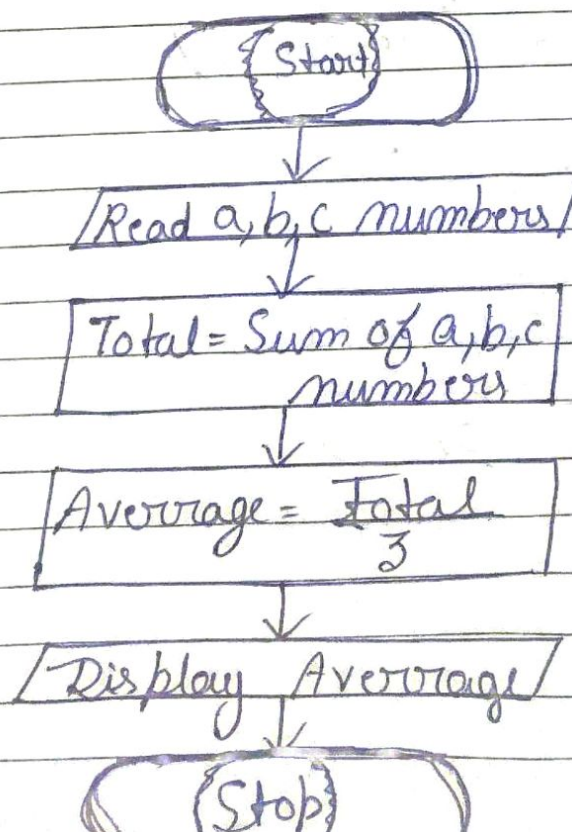   Step 1:-   Start

     Step 2:-   Read 3 numbers a, b, c.

     Step 3:-   Set total = Sum of a, b, c

     Step 4:-   Set Average = $\dfrac{total}{3}$

     Step 5:-   Display Average

     Step 6:-   stop

```
        ( Start )
            │
            ▼
   / Read a, b, c numbers /
            │
            ▼
   ┌──────────────────────┐
   │ Total = Sum of a, b, c│
   │        numbers        │
   └──────────────────────┘
            │
            ▼
   ┌──────────────────────┐
   │ Average = Total / 3   │
   └──────────────────────┘
            │
            ▼
   / Display Average /
            │
            ▼
        ( Stop )
```

b) Area of a rectangle whose length and breadth are given.

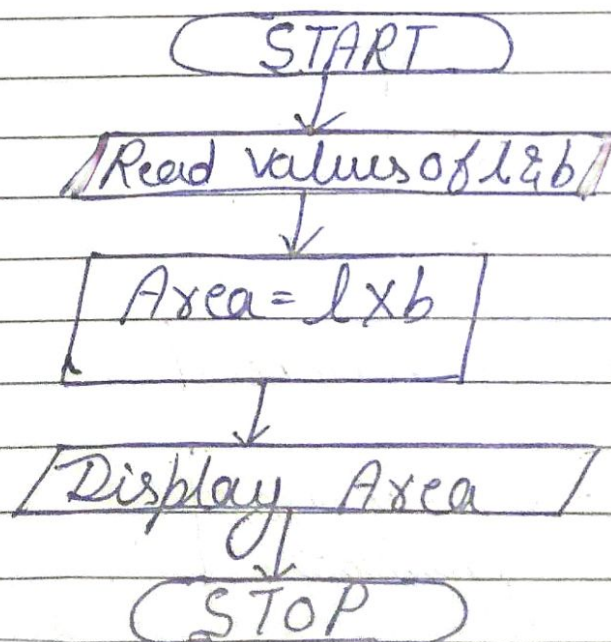Algorithm :-

Step: 1   Start.

Step: 2   Take values of l & b. OR
           Read the values of length & breadth.

Step: 3   find Area
           i.e; Area = $l \times b$
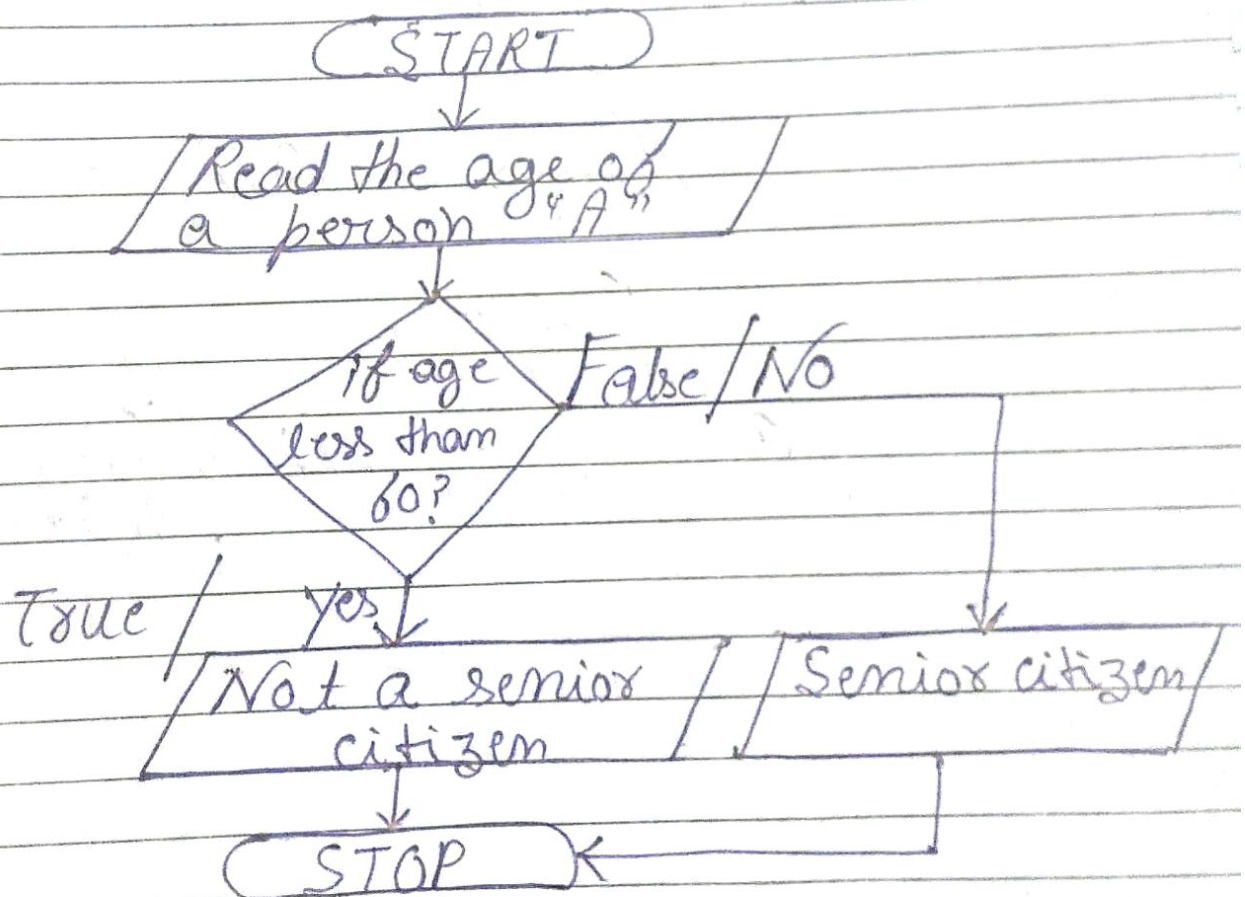
Step: 4   Display Area of rectangle

Step: 5   Stop

flowchart :-

START

Read values of l & b

Area = $l \times b$

Display Area

STOP

2

Quiz

a) Read age of a person. if age less than 60 than print "Not a senior citizen" otherwise print "Senior Citizen".

flowcharts :-

```
              ┌─────────────┐
              │    START     │
              └─────────────┘
                     │
                     ▼
          ╱─────────────────────╱
         ╱ Read the age of      ╱
        ╱ a person "A"         ╱
       ╱─────────────────────╱
                     │
                     ▼
              ╱╲
            ╱    ╲
          ╱  if age  ╲   False/NO
         ╱ less than  ╲──────────────┐
          ╲   60?   ╱                │
            ╲    ╱                   │
              ╲╱                     │
   True/     │  Yes                  ▼
          ╲  │            ╱─────────────────╱
    ╱─────────────╱      ╱ Senior citizen  ╱
   ╱ Not a senior ╱     ╱─────────────────╱
  ╱  citizen     ╱              │
 ╱─────────────╱               │
        │                      │
        ▼                      │
   ┌─────────────┐◄────────────┘
   │    STOP     │
   └─────────────┘
```

b) Read two numbers and print maximum of 2 numbers.

* flow chart :-

```
          ┌─────────────┐
          │    START     │
          └──────┬──────┘
                 │
                 ▼
        ╱─────────────────╱
       ╱ Read two numbers ╱
      ╱  as a and b      ╱
     ╱─────────────────╱
                 │
                 ▼
              ◇
           ╱    ╲
          ╱  if   ╲ ──────────── NO/False
          ╲ (a>b)? ╱
           ╲    ╱
              ◇
              │
           Yes/True
              │
              ▼                          ▼
     ╱─────────────╱            ╱─────────────╱
    ╱ a is greater ╱          ╱ b is greater ╱
   ╱  number      ╱          ╱  number      ╱
  ╱─────────────╱            ╱─────────────╱
         │
         ▼
   ┌───────────┐
   │   STOP     │ ◄──────────────
   └───────────┘
```
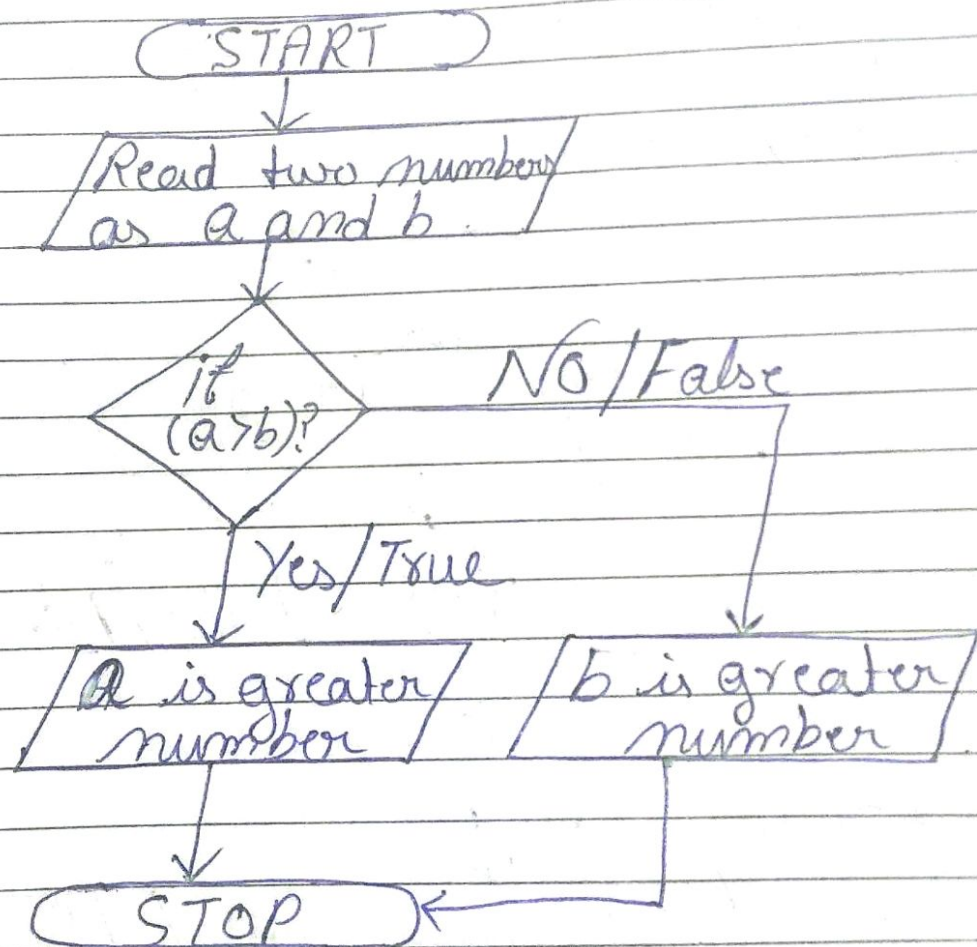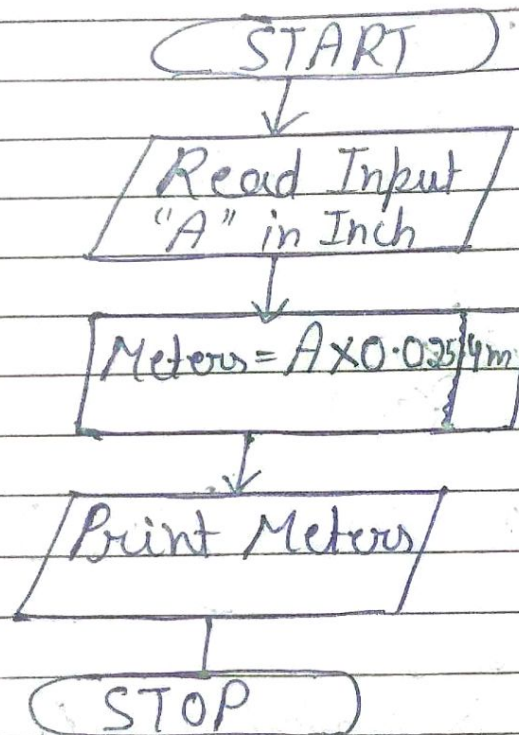
c) Read three numbers and print maximum of among 3 numbers.

flowchart :-

```
                    ( START )
                        |
                        v
              / Read the number /
              /    a, b, c      /
                        |
                        v
        Yes        < if(a<b) >
     +------------<  (a<b)    >
     |                        No        No
     v                                  < if(b<c) >    Yes
  < if(a<c) >----No------+    +------<           >------+
  <  (a<c)  >            |    |                          |
  Yes                    |    |                          |
     |                   v    v                          v
     v            / C is smallest /          / B is smallest /
  / A is smallest /  /  number     /          /   number     /
  /  number      /
         |               |                         |
         +---------------+-------------------------+
                         v
                    ( STOP )
```
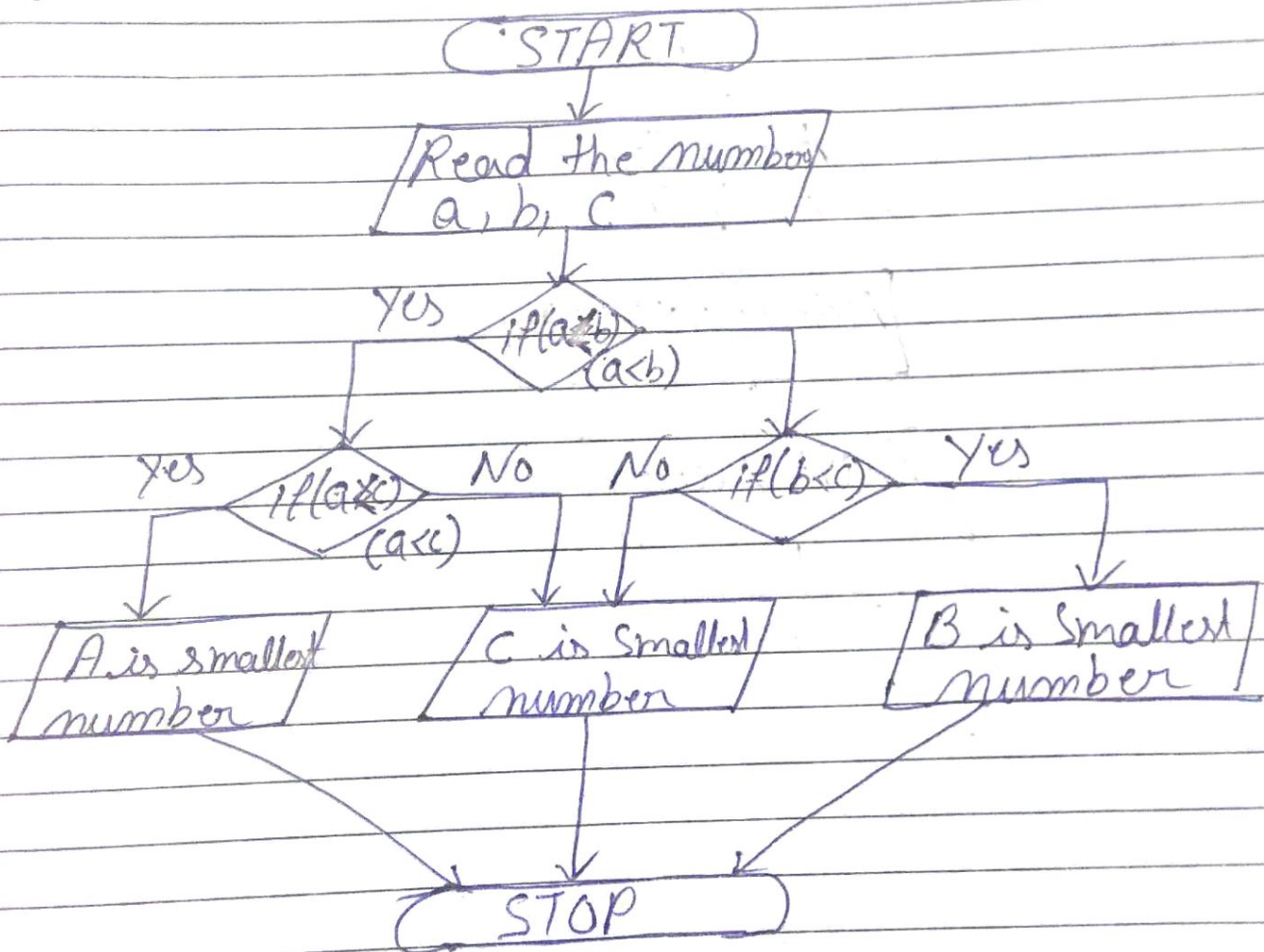
d) Read a number in inches and Convert it into meters.

Flow chart

```
          ( START )
              │
              ▼
      / Read Input  /
      /  "A" in Inch /
              │
              ▼
    | Meters = A×0.0254 m |
              │
              ▼
      / Print Meters /
              │
         ( STOP )
```

c.   Print 2, 4, 6, 8, 10

* flow chart :-

```
          ( START )
              │
              ▼
      / Read numbers /
              │
              ▼
      | Set num=2 |
              │
              ▼
         ◇ if(n≤10) ◇ ─────── False ──────┐
              │                            │
            True                           ▼
              │                        ( STOP )
      / Print num /
              │
              ▼
         | n = n+2 |
```

loop