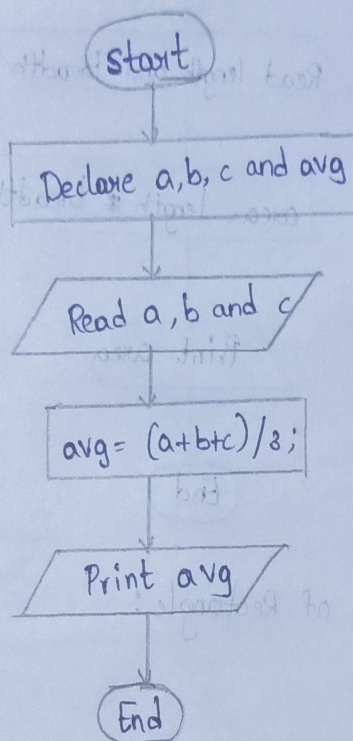# Assignment-1

1. Write the Algorithm and draw the flowcharts for the following:

A)
a) Find the average of three numbers a, b and c.

A) Flow chart for Average of three Numbers:

```
        ( Start )
            |
            v
  [ Declare a, b, c and avg ]
            |
            v
   / Read a, b and c /
            |
            v
  [ avg = (a+b+c)/3; ]
            |
            v
   / Print avg /
            |
            v
        ( End )
```

Algorithm for average of three Numbers:

~~Declare~~

Step 1: Start

Step 2: Declare a variable a, b, c and, avg as.
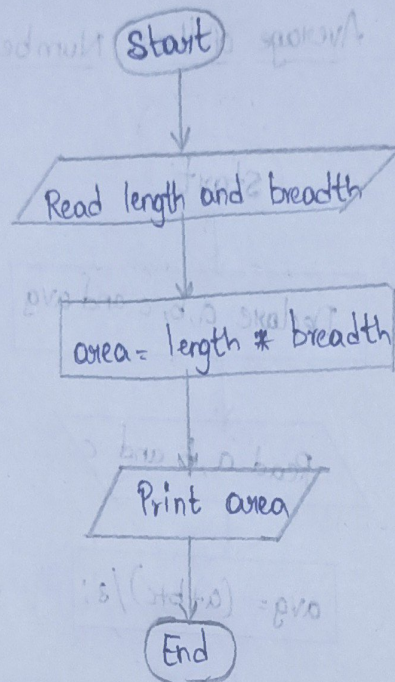
Step3: Read ~~three~~ numbers a, b and c.

Step 4: avg = (a+b+c)/3;

Step5: Print avg;

Step 6: End.

b) Find the area of a rectangle whose length and breadth are given.

A) Flow chart for area of Rectangle:

```
                    ( Start )
                        │
                        ▼
          / Read length and breadth /
                        │
                        ▼
          | area = length * breadth |
                        │
                        ▼
             / Print area /
                        │
                        ▼
                    ( End )
```

Algorithm for area of Rectangle:

Step 1: Start

Step 2: Read Input length and breadth.
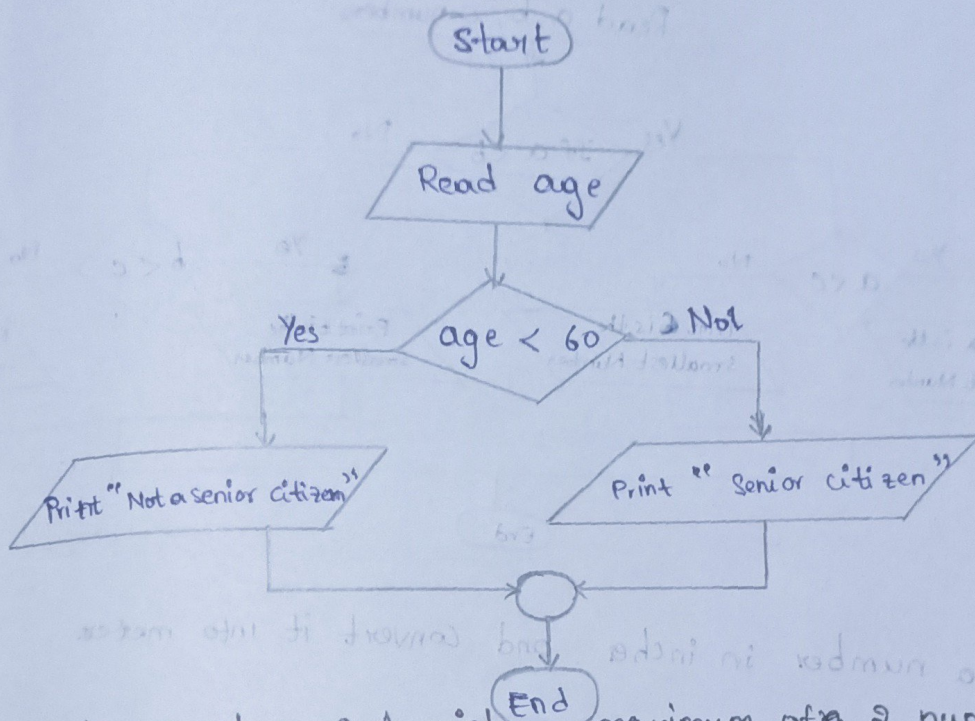
Step 3: area = length * breadth.

Step 4: Print area.

Step 5: End

2. Draw the flowcharts of the following.

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

A) Flow chart :

```
                    ( Start )
                        |
                        v
              /  Read  age  /
                        |
                        v
        Yes          < age < 60 >          No
         |                                  |
         v                                  v
/ Print "Not a senior citizen" /   / Print "Senior citizen" /
         |                                  |
         +--------------( )-----------------+
                         |
                         v
                      ( End )
```

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

```
                    ( Start )
                        |
                        v
              / Read two numbers /
              /       a,b        /
                        |
                        v
        No           < If a>b >          Yes
         |                                 |
         v                                 v
/ Print b is the largeNo /    / Print a is the large number /
         |                                 |
         +-------------( )-----------------+
                        |
                        v
                     ( End )
```
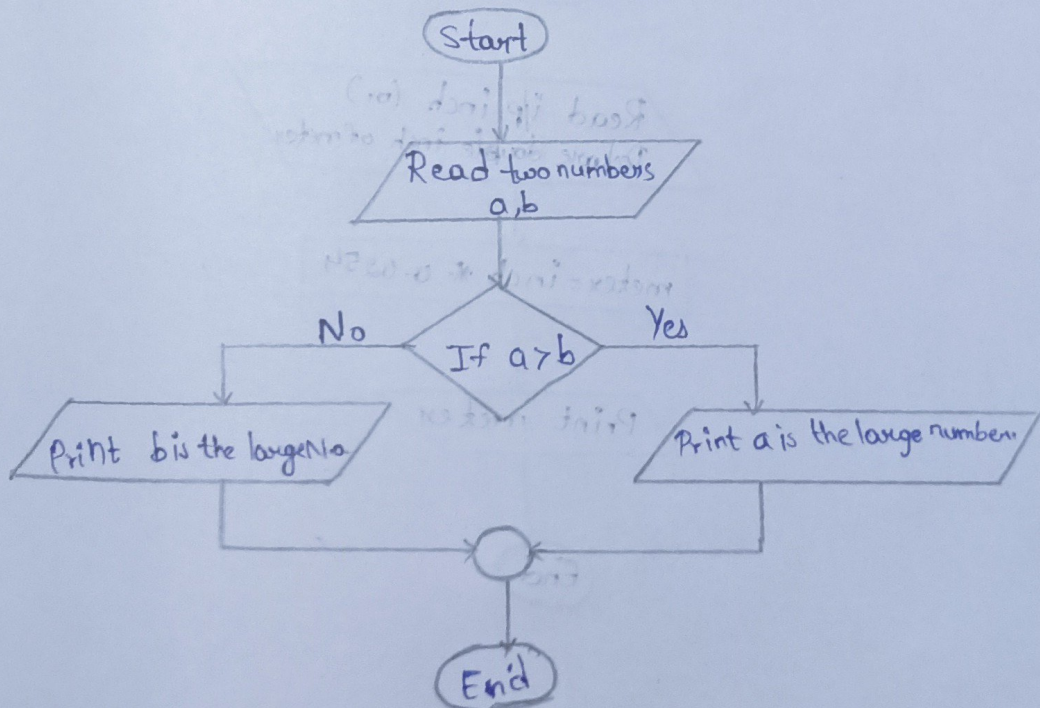
c) Read three numbers and print smallest among 3 numbers.

A) Flowchart:

```
                    ( Start )
                        |
                        v
        / Read a, b, c numbers /
                        |
                        v
         Yes  < If a < b >  No
        /                      \
       v                        v
  Yes < a < c > No        Yes < b < c > No
  /           \           /            \
 v             v         v              v
/Print a is the/ /Print c is the/ /Print b is the/ /Print c is the/
/smallest Number/ /smallest Number/ /smallest Number/ /smallest Number/
       \              |         |            /
        _____|_____|_____/
                        |
                        v
                    ( End )
```
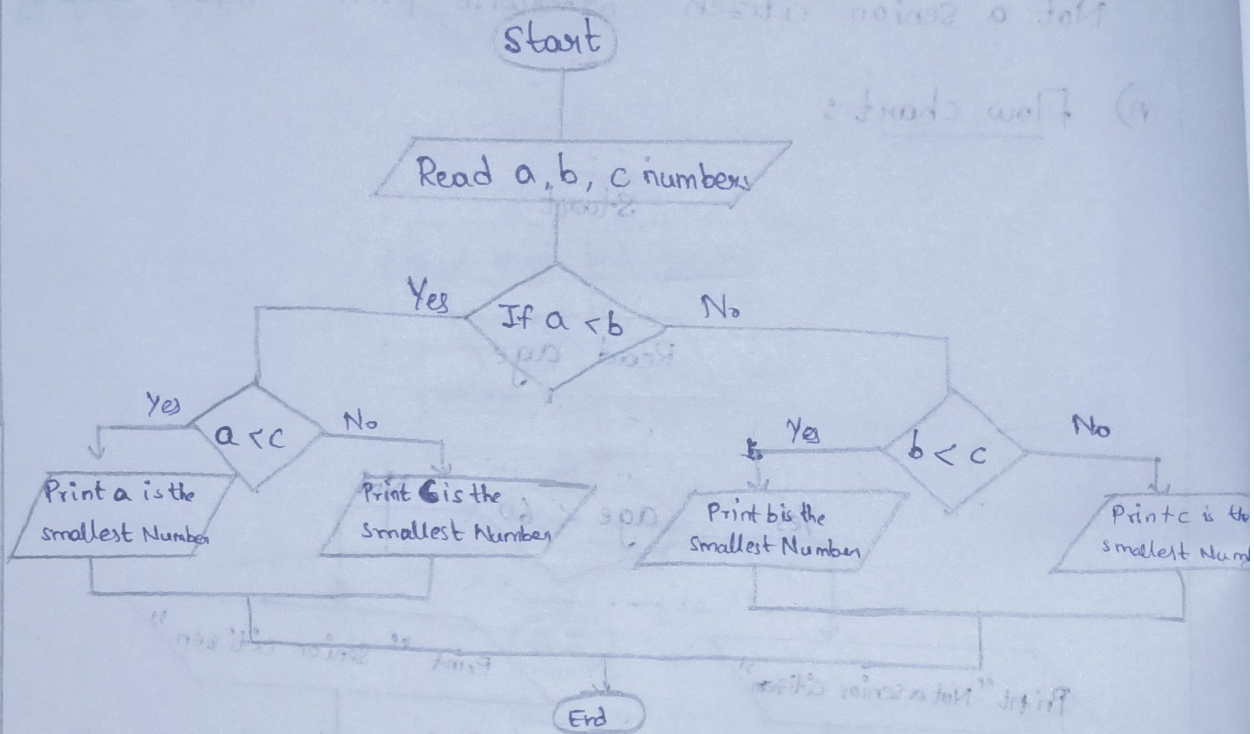
d) Read a number in inches and convert it into meters.

```
            ( Start )
                |
                v
    / Read i/p inch (or) /
    / Declare double inch of meter /
                |
                v
    | meter = inch * 0.0254 |
                |
                v
        / Print meter /
                |
                v
            ( End. )
```

e) Print 2, 4, 6, 8, 10.

A)

```
                    ┌──────────┐
                    │  Start   │
                    └──────────┘
                         │
                         ▼
         ╱────────────────────────────────╲
         ╲  Read input int i, Sum = 0      ╱
          ╲──────────────────────────────╱
                         │
                         ▼
      No          ◇─────────────◇         Yes
    ◄────────────◇  if <= 50    ◇────────────►
                  ◇─────────────◇
                         │
                         ▼
                  ┌─────────────┐
                  │  Sum=i*2    │
                  └─────────────┘
                         │
                         ▼
              ╱────────────────╲
              ╲   Print sum    ╱
               ╲──────────────╱
                         │
                         ▼
                    ┌──────────┐
                    │  End.    │
                    └──────────┘
```