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

a) Print even numbers between 0 and 99

b) Print odd numbers less than a given number. It should also calculate their sum and count

c) Calculate the average of 25 test scores.

d) Print table of any number N (say 7)

e) Check if the given number is Prime or not.

f) Print odd numbers backward from 99 to 1

**Solution**:

1.a,

**Algorithm**:

Step 1: Start

Step 2: I <-0

Step 3: Print I

Step 4: I <- I+2

Step 5: if(I<99) then goto step 3

Step 6: End

**Flowchart** :

False

True

Stop

If(I<99)

I <- I+2

Print I

I <- 0

1.b,

Start

Algorithm:

Step 1: Start

Step 2: Read A

Read A

Step 3: sum=0, count=0

Step 4: if (A>0 && A%2!=0)

Sum=0, Count=0

Step 5: Print A

Step 6: Sum = Sum + A

True

A%2! = 0

Step 7: Count = Count + 1

False

True

A=A-1

False

Stop

Print Count

Print Sum

A>0

A=A-2

Print A

Count =Count+1

Sum=Sum + A

Step 8: A=A-2, goto Step 4

Step 9: else if(A>0 && A%2=0)

Step 10: A=A-1, goto Step 5

Step 11: else if(A<0)

Step 12: Print Sum, count

Step 13: Stop

1.c, **Algorithm** :

Step 1: Start

Step 2: I <- 1, N <- 25, SUM <- 0

Step 3: Read I’th exam score X

Step 4: Sum = Sum + X

Step 5: I = I + 1

Step 6: if (I<N), goto Step 3

Step 7: Avg = Sum/N

Step 8: Print Avg

Step 9: Stop

False

True

Start

Stop

Print Avg

Avg = Sum/N

I<N

I=I+1

Sum = Sum + X

Read I’th exam score X

I=1

N=25

Sum =0

**Flowchart** :

1.d, **Algorithm** :

Step 1: Start

Step 2: I <- 0

Step 4: Read N

Step 4: I <- I+N //Table of N

Step 5: Print I

Step 7: if (I<=I\*10), goto Step 4

Step 8: Stop

Stop

if (I<=I\*10)

Print I

I <- I+N

Read N

I <- 0

Start

**Flowchart** :

False

True

1.e, **Algorithm** :

Start

Step 1: Start

Step 2: Read n

Read n

Step 3: c=0

Step 4: for(i =2;n-1)

Step 5: if n%i =0 then

C=0

Step 6: c=1 and break

Step 7: repeat step-4 and n-1

Step 8: if c=0, then

for(i = 2; n-1)

Print The number is prime

Else

Print The number is not prime

If n%i=0

Step 9: stop

C=1

n-1

False

True

Print Not prime

Print Prime

Stop

1.f, **Algorithm**:

Step 1: Start

Step 2: I <- 99

Step 3: Print I

Step 4: I <- I-2

Step 5: if(I>0) then goto step 3

Step 6: End

**Flowchart** :

False

True

Stop

If(I>0)

I <- I-2

Print I

I <- 99