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Section:	**SP23-BCS-133(A)**
Instructor's Name:	**Sir A. Kareem**
Assignment Title:	**Lab sheet 2**

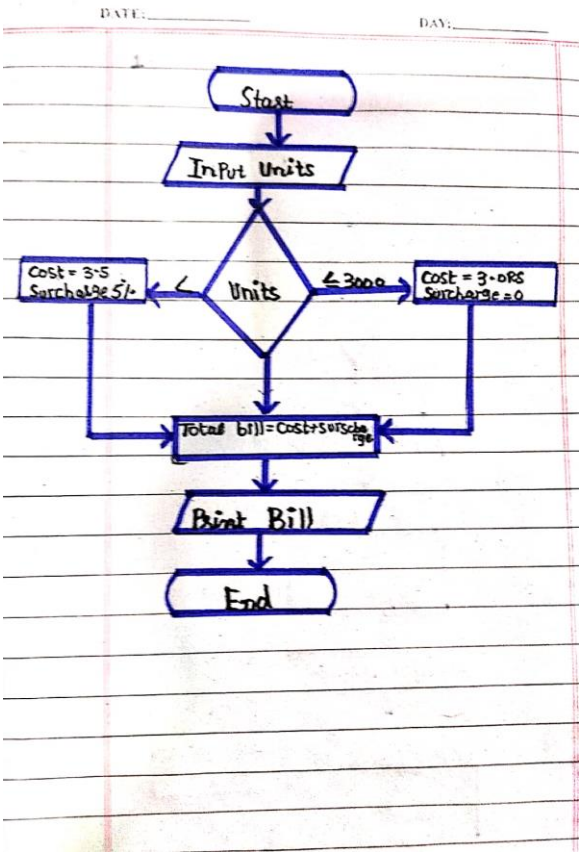
EXERCISE 1:

Electricity Bill using units as input.

Code:

```
#include<stdio.h>
int main()
{

float units,bill,total;

   printf("This program is written by Anosha Fatima.on 2-4-2023. This program
   will help to calculate the bill using units as input\n ");
          printf("Enter units\n");
          scanf("%f",&units);
          bill=units*3;
          total=(units*3.5)+5/100;
          if(units<=300)
          {
             printf("BILL=%f",bill);
          }

       else
           printf("TOTAL BILL=%f",total);
   return 0;
   }
```

FLOWCHART:



OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will help to calculate the bill using units as input
 Enter units
200
BILL=600.000000
Process returned 0 (0x0)   execution time : 3.093 s
Press any key to continue.
```

EXERCISE 2:

Grades and Credit point of students using Percentage.

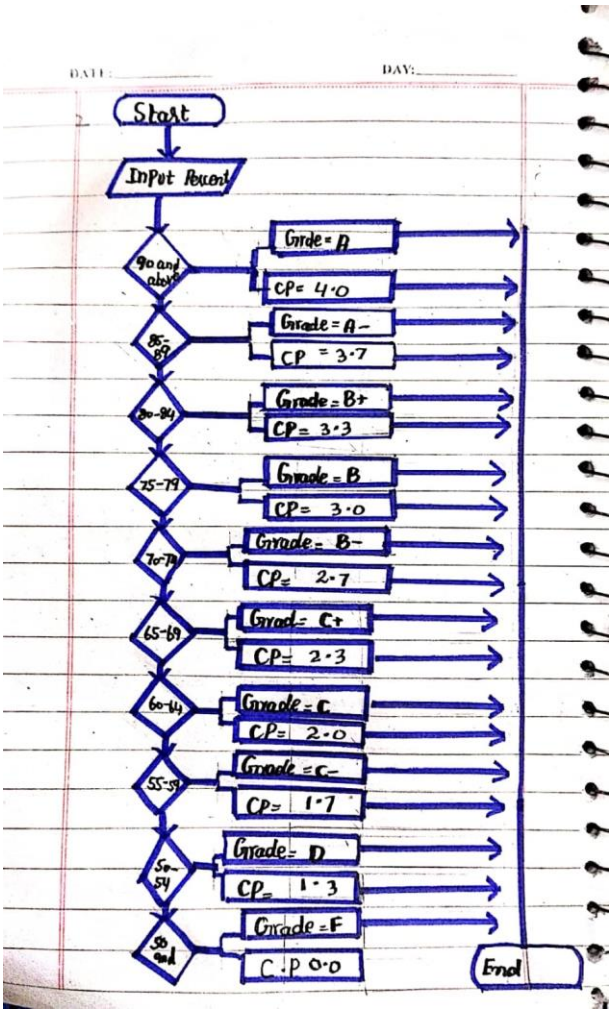
Code:

```
#include<stdio.h>
int main()
{
int math;
int eng;
int urdu;
int com;
int chem;
int sum;
float percent;

printf("This program is written by Anosha Fatima.on 2-4-2023. This program will
help to check student's grade\n ");
//take input
printf("Enter marks of Math:\n");
scanf("%d",&math);
printf("Enter the Marks of  Eng:\n");
scanf("%d",&eng);
printf("Enter the marks of Urdu:\n");
scanf("%d",&urdu);
printf("Enter the marks of Computer:\n");
scanf("%d",&com);
printf("Enter the marks of Chemistry:\n");
scanf("%d",&chem);
sum=math+eng+urdu+com+chem;
percent=sum/500*100;
printf("percent=%f\n",percent);
if(percent>=90&&<=100)
{
printf("Grade=A\n");
printf("Credit=4\n");

}
```

```
else if(percent>=85)
{
printf("Grade=A-\n");
printf("Credit=3.7\n");


}
else if(percent>=80)
{
printf("Grade=B+\n");
printf("Credit=3.3\n");

}
else if(percent>=75)
{
printf("Grade=B\n");
printf("Credit=3.0\n");

}
else if(percent>=70)
{
printf("Grade=B-\n");
printf("Credit=2.7\n");

}
else if(percent>=65)
{
printf("Grade=C+\n");
printf("Crdit=2.3\n");

}
else if(percent>=60)
{
printf("Grade=C\n");
printf("Credit=2.0\n");

}
else if(percent>=55)
{
printf("Grade=C-\n");
printf("Credit=1.7\n");

}
else if(percent>=50)
{
```

```
printf("Grade=D\n");
printf("Credit=1.3\n");

}
else if(percent<50&&>0)
{
printf("Grade=F\n");
printf("Credit=0.0\n");

}
else
printf("Invalid number entered:\n");
return 0;
}
```

FLOWCHART:



OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will help to check student's grade
 Enter marks of Math:
60
Enter the Marks of  Eng:
70
Enter the marks of Urdu:
80
Enter the marks of Computer:
90
Enter the marks of Chemistry:
50
350.000000percent=70.000000
Grade=B-
Credit=2.7
```

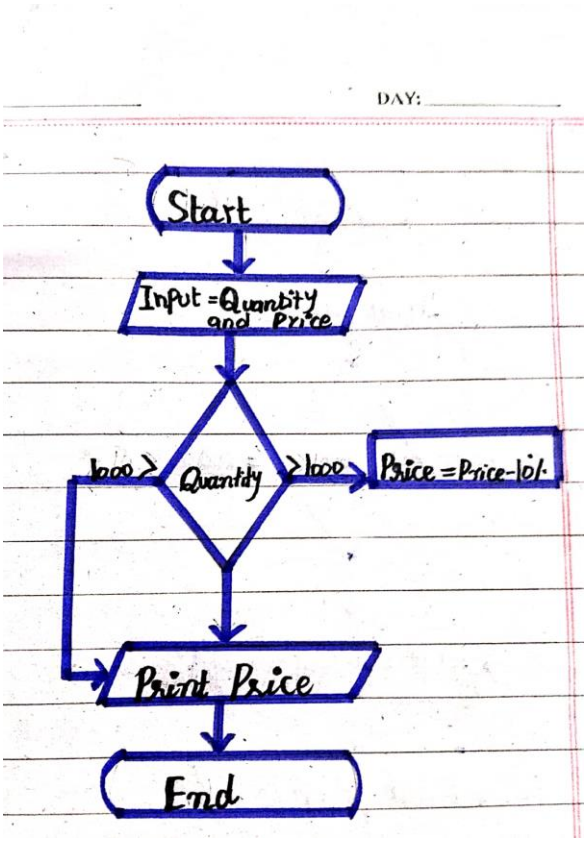
EXERCISE 3:

Calculate Discount using Quantity:

Code:

```
#include<stdio.h>
int main()
{
int qt,price,total;
printf("Enter the Price and quantity\n");
scanf("%d%d",&price,&qt);
total= price-(10/100);
if(qt>1000)
{
    printf("%d=total",total);
}
else
{
    printf("%d=total",price);
}

return 0;

}
```

Flowchart:



OUTPUT:

```
Enter the Price and quantity
2000 1500
2000=total
Process returned 0 (0x0)   execution time : 8.600 s
Press any key to continue.
```

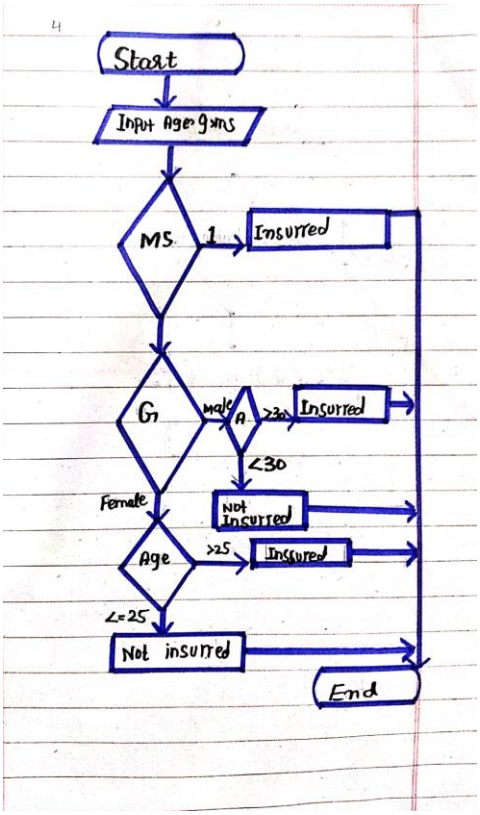
EXERCISE 4:

Determine if The Driver is Insured or not:

Code:

```
#include<stdio.h>
int main()
{
int gender,ms,age;
printf("Enter age,gender (1=female or 2=male),marital status (1=unmarried or 2=
married)");
scanf("%d %d %d",age,&gender,&ms);
if(ms==2)
{printf("Driver is insured.\n");}
else if (ms==1 && gender==2 && age>30)
{printf("Driver is insured.\n");
}
else if(ms==1 && gender==1 && age>25)
{printf("Driver is insured\n");

}
else

printf("Driver is not insured\n");
return 0;
}
```

FLOWCHART:



OUTPUT:

```
Enter age,gender (1=female or 2=male),marital status (1=unmarried or 2= married)30 2 1

Process returned -1073741819 (0xC0000005)   execution time : 18.025 s
Press any key to continue.
```

EXERCISE 5:

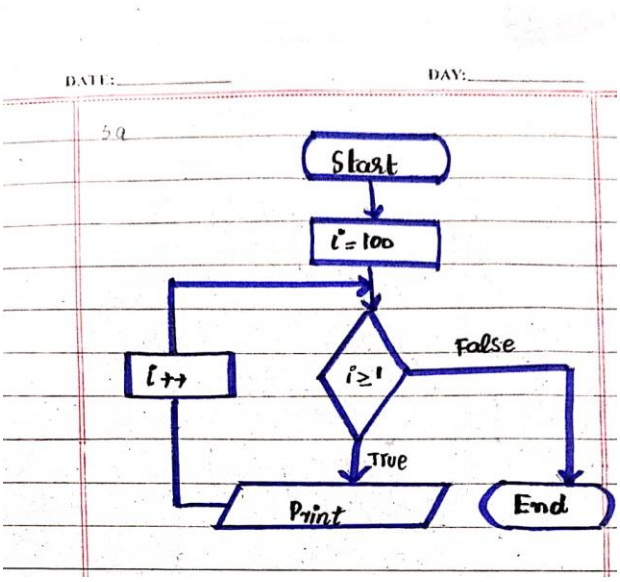
(a)

1 to 100 with increment of 1:

Code:

```
#include <stdio.h>

int main() {
    int i;

printf("This program is written by Anosha Fatima.on 2-4-2023. This program will
print 1 to 100 with increment of 1\n ");

    for (i = 1; i <= 100; i++) {
        printf("%d ", i);
    }

    return 0;
}
```

FLOWCHART:



OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will print 1 to 100 with increment of 1
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58
9 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
Process returned 0 (0x0)   execution time : 0.031 s
Press any key to continue.
```

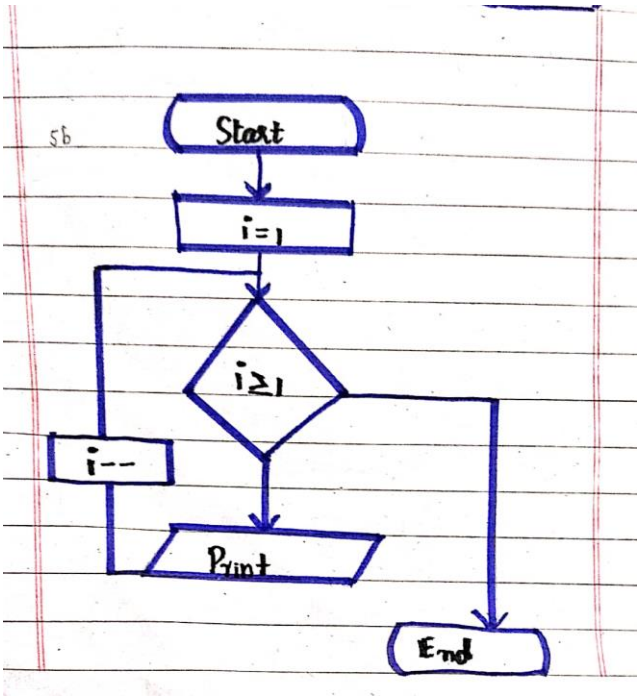
(b)

100 to 1 using Decrement of 1:

Code:

```c
#include <stdio.h>

int main() {
    int i;

printf("This program is written by Anosha Fatima.on 2-4-2023. This program will
print 100 to using with decrement of 1\n ");

    for (i = 100; i >= 1; i--) {
        printf("%d ", i);
    }

    return 0;
}
```

FLOWCHART:



OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will print 100 to using with decrement of 1
 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 4
45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

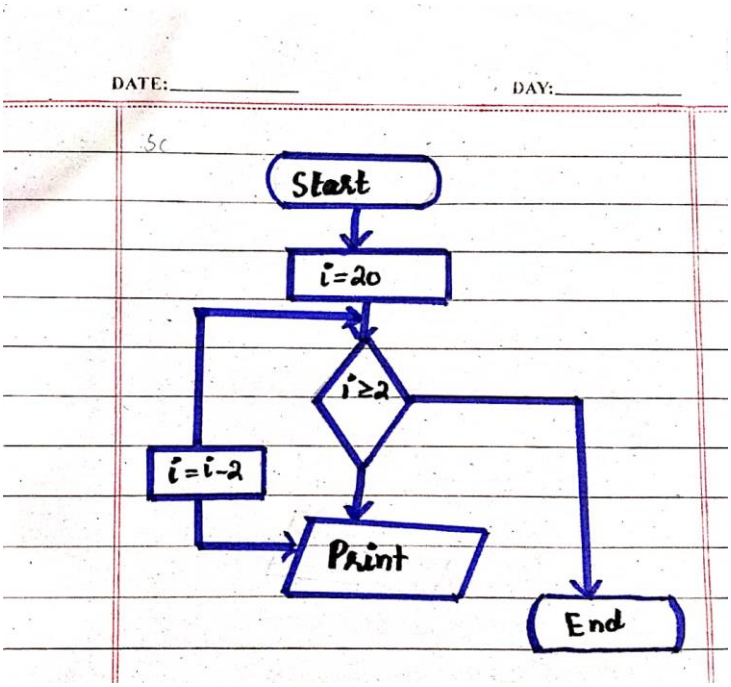
(C)

FROM 20 TO 2 IN STEPS OF -2:

Code:

```c
#include <stdio.h>

int main() {
    int i;

printf("This program is written by Anosha Fatima.on 2-4-2023. This program will
print 20 to 2\n ");

    for (i = 20; i >= 2; i -= 2) {
        printf("%d ", i);
    }

    return 0;
}
```

FLOWCHART:



OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will print 20 to 2
 20 18 16 14 12 10 8 6 4 2
Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

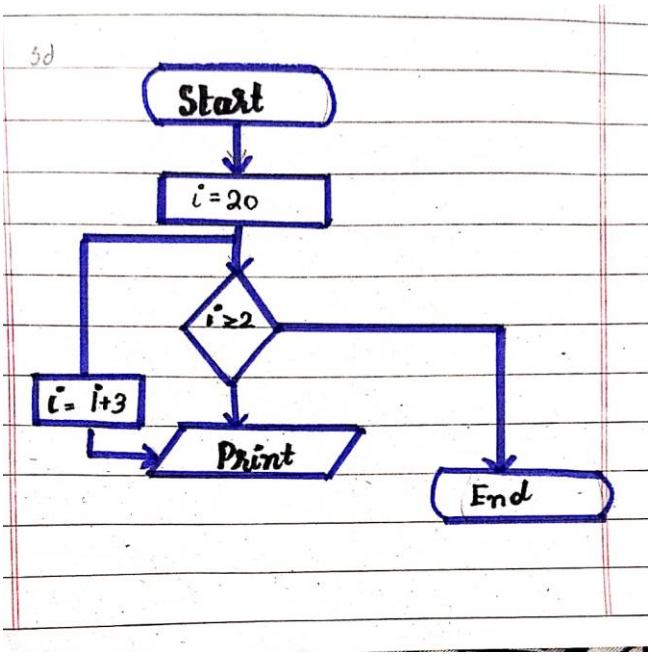
(d)

Print Sequence o Number:

Code:

```c
#include <stdio.h>

int main() {
    int i;

printf("This program is written by Anosha Fatima.on 2-4-2023. This program will
print sequence of numbers 2,5,8,11,14,17,20\n ");

    for (i = 2; i <= 20; i += 3) {
        printf("%d ", i);
    }

    return 0;
}
```

FLOWCHART:



OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will print sequence of numbers 2,5,8,11,14,17,20
 2 5 8 11 14 17 20
Process returned 0 (0x0)   execution time : 1.490 s
```

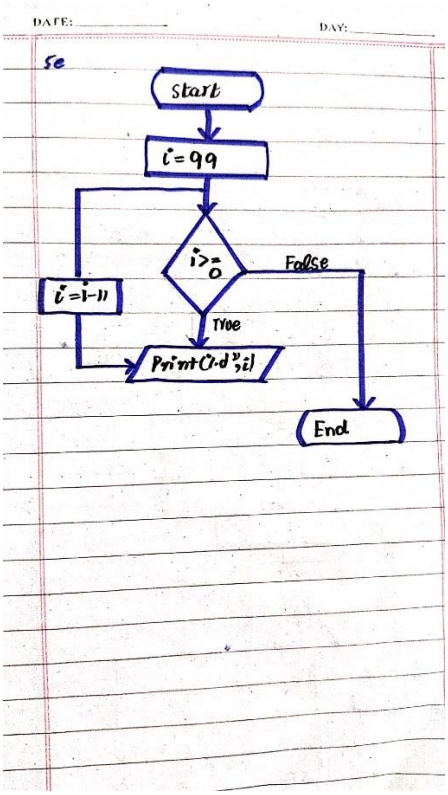
(e)

Print Sequence of Numbers:

Code:

```c
#include <stdio.h>

int main() {
    int i;

printf("This program is written by Anosha Fatima.on 2-4-2023. This program will
print a sequence of 99,88,77,66,55,44,33,22,11,0\n ");

    for (i = 99; i >= 0; i -= 11) {
        printf("%d ", i);
    }

    return 0;
}
```

FLOWCHART:



OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will print a sequence of 99,88,77,66,55,44,33,22,11,0
 99 88 77 66 55 44 33 22 11 0
```

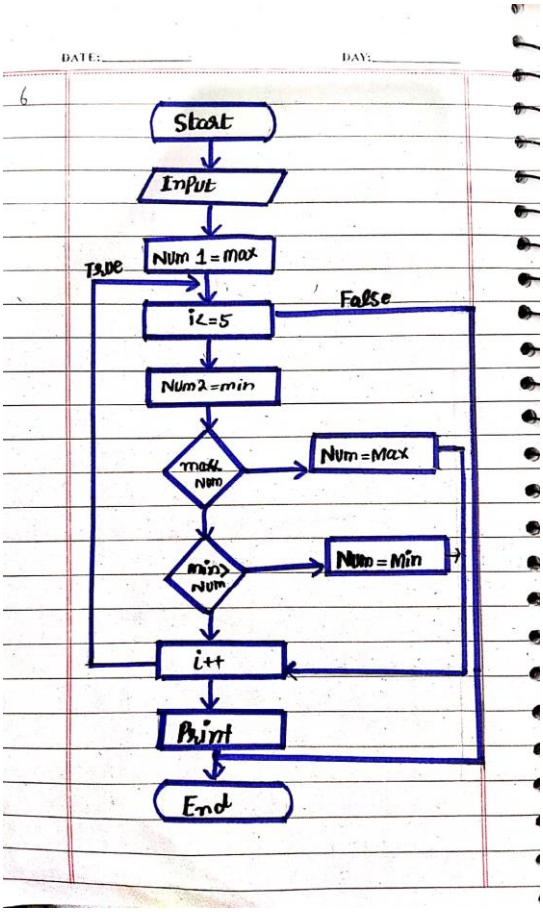
EXERCISE 6:

Print Maximum and Minimum Number Using Loop:

Code:

```
#include<stdio.h>
int main()
{
int num,largest,smallest;
printf("This program is written by Anosha Fatima.on 2-4-2023. This program will
help to determine largest and smallest number.\n");
printf("Enter an integer:\n");
scanf("%d",&num);
largest=num;
smallest=num;
for(int i=0;i<4;i++)
{
printf("Enter an integer:\n");
scanf("%d",&num);
if(num>largest)
{
largest=num;

}
if(num<smallest)
{smallest=num;
}
printf("Largest number is %d.\n",largest);
printf("Smallest number is %d\n",smallest);
}
return 0;
}
```

FLOWCHART:


DATE:
DAY:
6
Start
Input
Num 1 = max
True
i<=5
False
Num2=min
max < Num
Num = Max
min > Num
Num = Min
i++
Print
End

OUTPUT:

```
This program is written by Anosha Fatima.on 2-4-2023. This program will help to determine largest and smallest number.
Enter an integer:
5
Enter an integer:
4
Largest number is 5.
Smallest number is 4
Enter an integer:
6
Largest number is 6.
Smallest number is 4
Enter an integer:
8
Largest number is 8.
Smallest number is 4
Enter an integer:
```

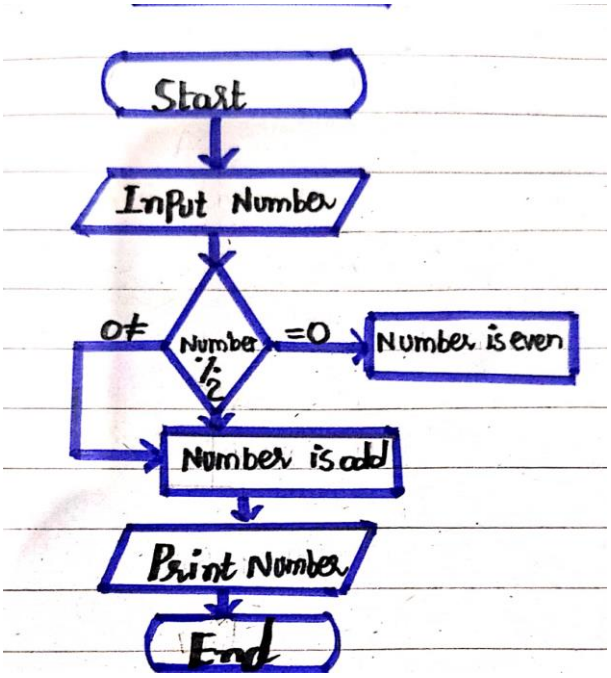
EXERCISE 7:

Determine if the Number is Even or Odd:

CODE:

```c
#include<stdio.h>
int main()
{
int num;
printf("Enter a NUMBER\n");
scanf("%d",&num);
if(num%2==0)
{
printf("Number is even.\n");

}
else
printf("Number is odd\n");
return 0;
```

FLOWCHART:



OUTPUT:

```
Enter a NUMBER
2
Number is even.

Process returned 0 (0x0)   execution time : 5.739 s
Press any key to continue.
```

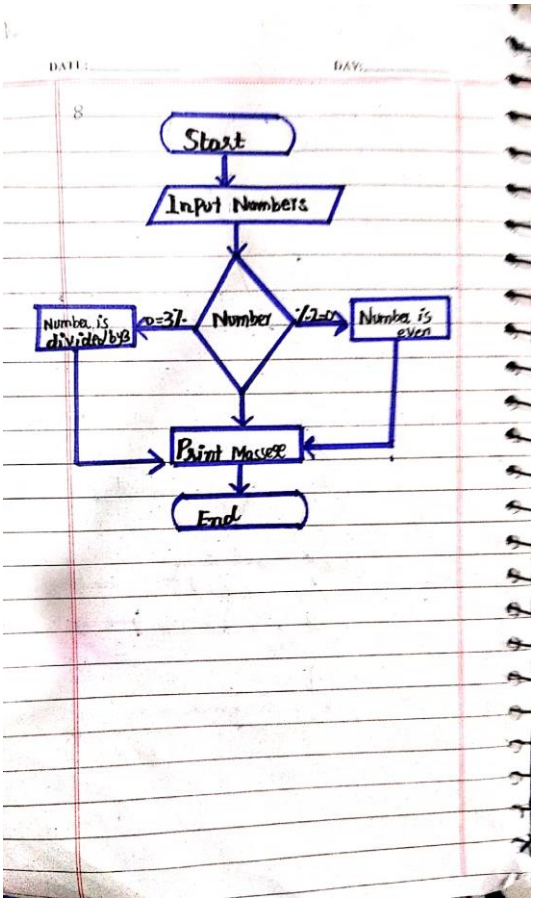
EXERCISE 8:

Even or Divisible by Three Using Loop:

Code:

```c
#include <stdio.h>

int main() {
    int i, num;

    for (i = 1; i <= 10; i++) {
        printf("Enter number %d: ", i);
        scanf("%d", &num);

        if (num % 2 == 0) {
            printf("%d is even\n", num);
        }

        if (num % 3 == 0) {
            printf("%d is divisible by three\n", num);
        }
    }

    return 0;
}
```

FLOWCHART:


Start
Input Numbers
Number
Numbe is divide by3
Numbe is even
Print Masseg
End

OUTPUT:

```
Enter number 1: 4
4 is even
Enter number 2: 6
6 is even
6 is divisible by three
Enter number 3: 8
8 is even
Enter number 4: 10
10 is even
Enter number 5: 12
12 is even
12 is divisible by three
Enter number 6: 21
21 is divisible by three
Enter number 7: 24
24 is even
24 is divisible by three
Enter number 8: 30
30 is even
30 is divisible by three
Enter number 9: 15
15 is divisible by three
Enter number 10: 9
9 is divisible by three

Process returned 0 (0x0)   execution time : 46.378 s
Press any key to continue.
```

----------THE END----------