

Write a program to that performs as calculator (Addition, multiplication, division, subtraction).

Source code

```
# include <stdio.h>
```

```
int main()
```

```
{
```

```
int a, b, sum, pro, diff;
```

```
float div;
```

```
printf ("Enter the value of two no.s");
```

```
scanf ("%d %d", &a, &b);
```

```
diff = a - b;
```

```
Sum = a + b;
```

```
pro = a * b;
```

```
div = (float) a / b;
```

```
printf ("\n The sum is = %d, difference is = %d,
```

```
product is = %d,
```

```
Division is = %.2f, \n", sum, diff, pro,
```

```
div);
```

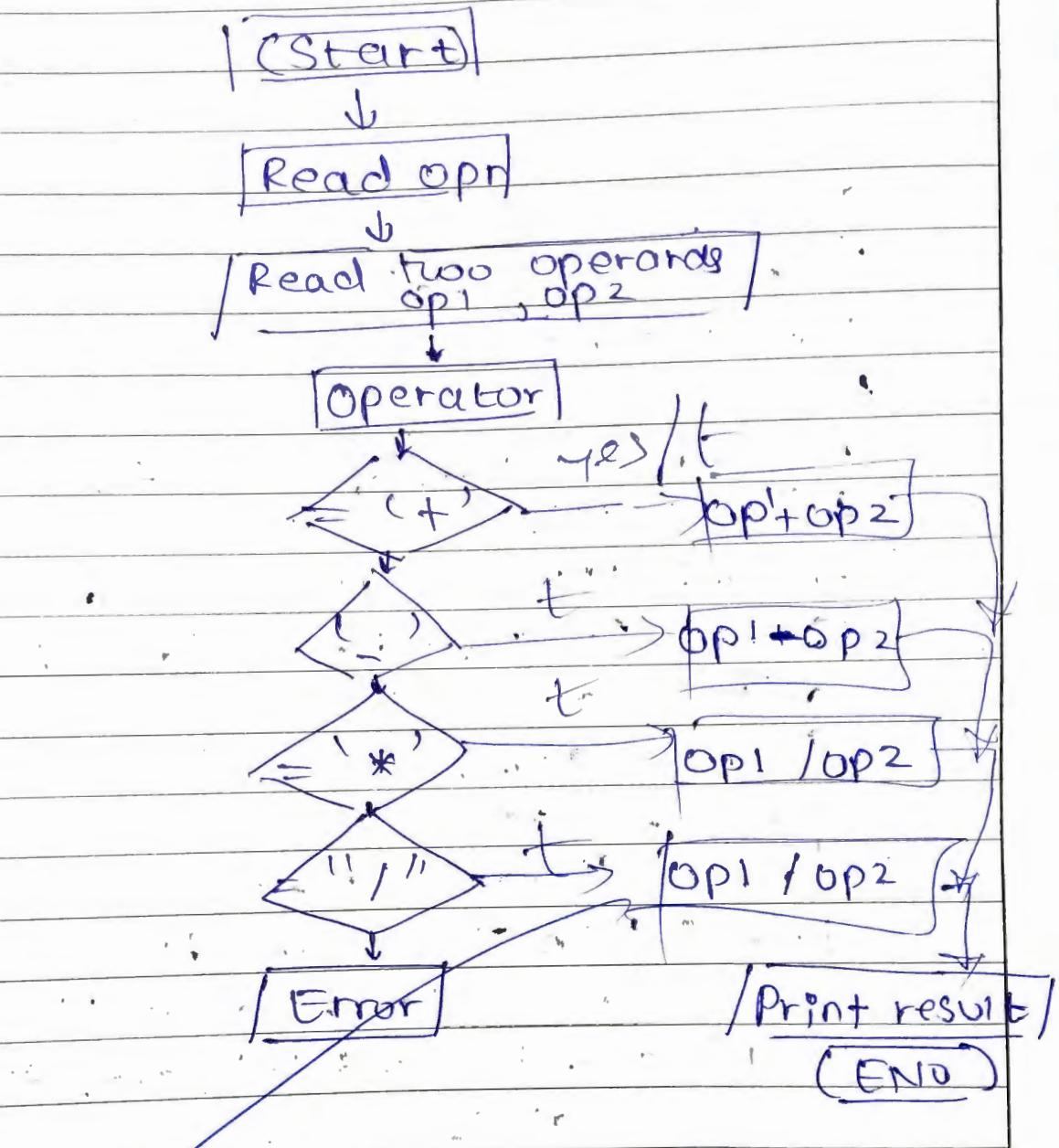
```
return 0;
```

```
}
```

Output

Enter the value of two no.s : 65

The sum of 65, diff is 1, product is 30, Division is 1.2



- 02 Write a program to find area of triangle($a = h * b * .5$)
a = area, h = height, b = base

```
#include <stdio.h>
```

```
int main(void) {
    float a, b, h;
    printf("Enter the value for base and height of the triangle\n");
    scanf("%f %f", &b, &h);
    a = 0.5 * b * h;
    printf("The area of the triangle is: %.2f\n", a);
    // your code goes here
    return 0;
}
```

Input

5.5

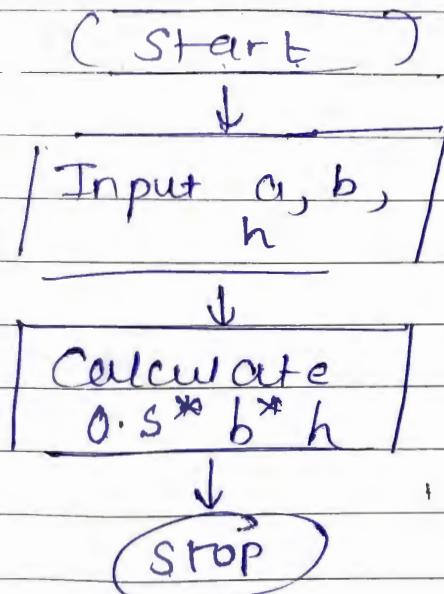
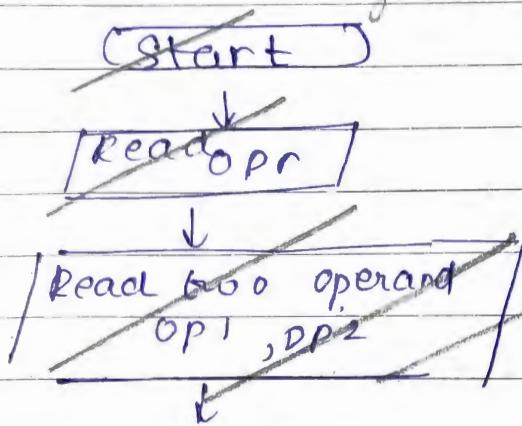
4.0

Output

Enter the value for base and height of the triangle

The area of the triangle is: 11.00000.

Flow chart and Algorithm.



* Algorithm

- ① Start
- ② Input a, b, c
- ③ Calculate $0.5 * b * h$
- ④ Print "Area of triangle is" = area
- ⑤ Stop

03

Write a program to calculate simple interest

$$(i = (p * r * n) / 100)$$

i = Simple interest, p = Principal amount, r = Rate of interest, n = Number of years

#include <stdio.h>

int main(void) {

// Program to calculate simple interest ($Si = p * n * r / 100$).

float p, r, n, Si;

printf("Enter the value for principle, rate of interest and time period \n");

scanf("%f %f %f", &p, &r, &n);

$$Si = (p * n * r) / 100;$$

printf("The area of the triangle is : %f \n", a);

// your code goes here

return 0;

}

Input:

5000

6.25

5

Output

Enter the value for principal, rate of interest and time period.

The simple interest is: 1562.50000.

Flowchart

(Start)



[Input P, r, n]



Calculate

$$\frac{P * n * r}{100}$$



Print "The simple
interest is"
= area

↓

(Stop)

04 Write a C program to interchange two numbers.

#include <stdio.h>

%d - int request

int main(void) {

 // Program to interchange two numbers

 int n1 = 27, n2 = 36, temp;

 printf("Before interchange number1=%d, number2=%d",
 n1, n2);

 temp = n1; //temp=27

 n1 = n2; // n1=36

 n2 = temp; // n2=27

 printf("After interchange number1=%d, number2=%d",
 n1, n2);

 // your code goes here

 return 0;

3

Output

Before interchange number1=27, number2=36

After interchange number1=36, number2=27.

(Start)



Read n₁, n₂



calculate

$$n_1 = n_1 + n_2$$

$$n_2 = n_2 - n_2$$

$$n_1 = n_1 - n_2$$



Print

n₁, n₂



(Stop)

Write a C program to enter a distance in to kilometre and convert it in to meter, feet, inches and centimeter

#include <stdio.h>

int main(void) {

// Program to convert kilometer to meter, centimeter, feet inches

float km, m, cm, ft, inch;

printf ("Enter value for kilometer \n");

scanf ("%f", &km);

m = km * 1000;

cm = m * 100;

ft = cm / 30;

inch = ft * 12;

printf ("the distance in meter = %f, centimeter = %f,
feet = %f, inches = %f, m, cm, ft, inch);

// Your code goes here

return 0;

}

Input

5

Output

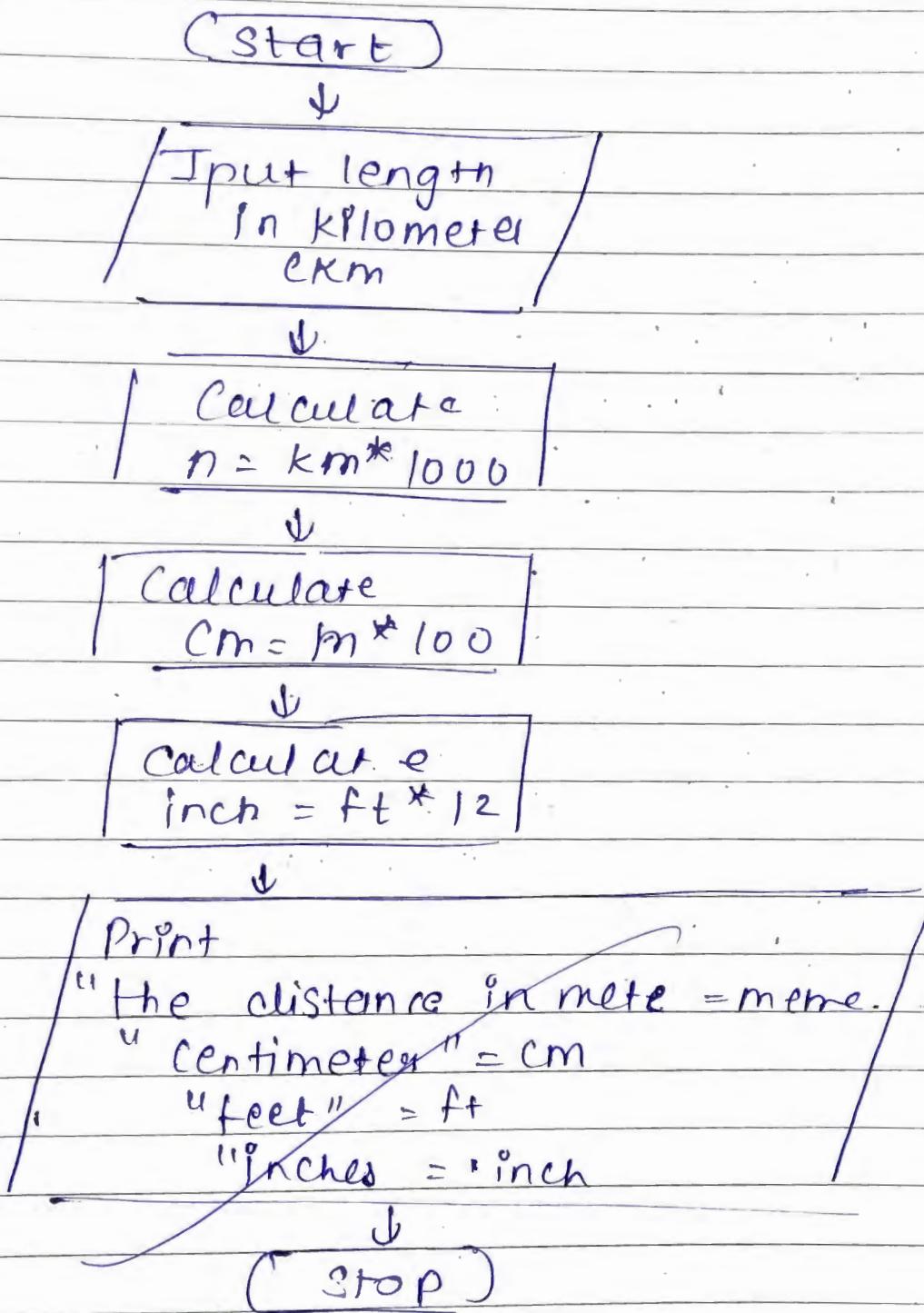
Enter value for kilometer

the distance in meter = 5000.00000,

centimeter = 500000.00000, feet = 166.66666666666666,

inches = 200000.00000

Flowchart



Write a C program to find that the accepted number is Negative, or Positive or Zero.

```

int main(void) {
    float num1;
    printf("Enter a Number \n");
    scanf("%f", &num1);
    if (num1 <= 0.0)
    {
        if (num1 == 0.0)
            printf("Entered number is zero\n");
        else
            printf("Entered number is negative\n");
    }
    else
        printf("Entered number is positive\n");
}
    
```

// your code goes here

return 0;

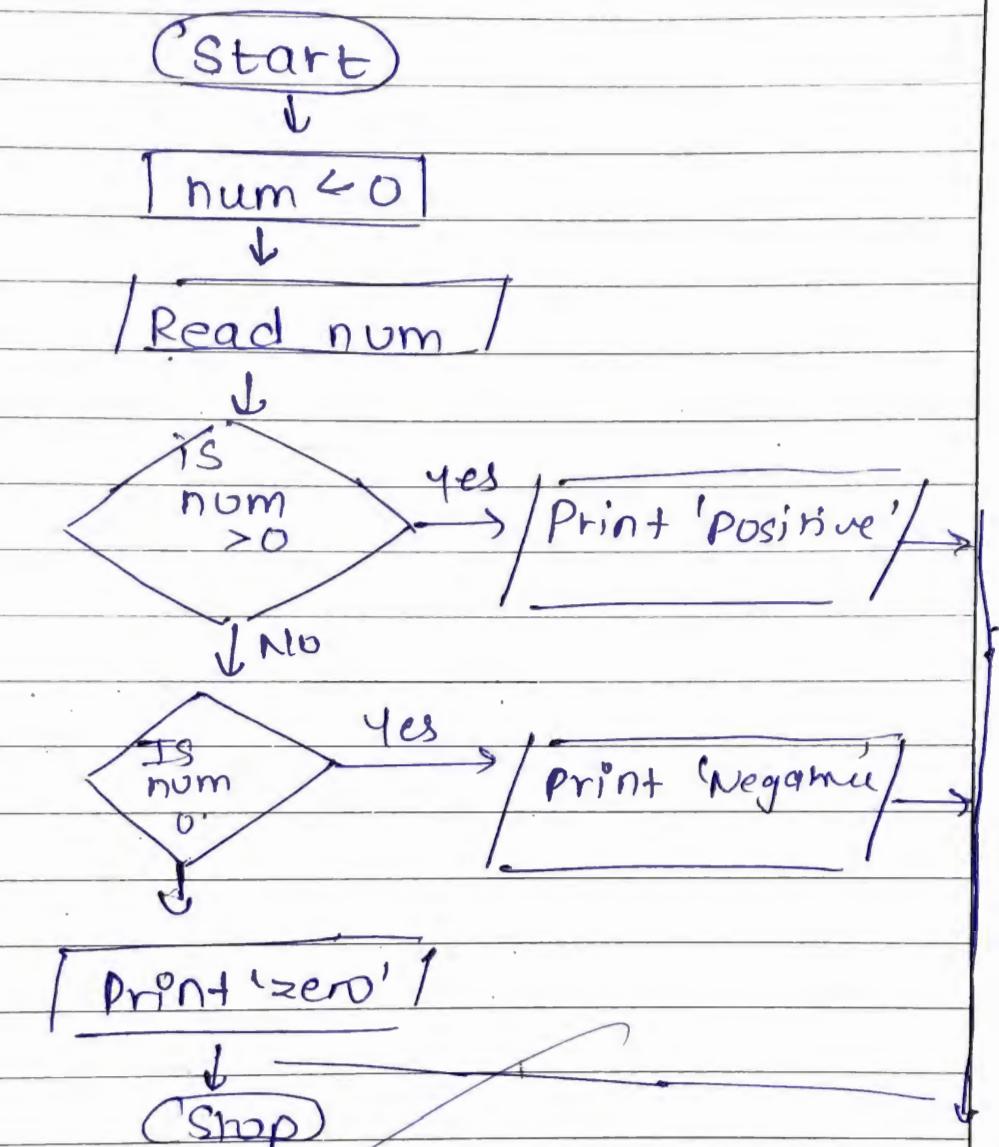
}

Output

Enter the no. -78

The num is negative.

Flowchart



Write a program to read three numbers from keyboard and find out maximum out of these three. (nested if else)

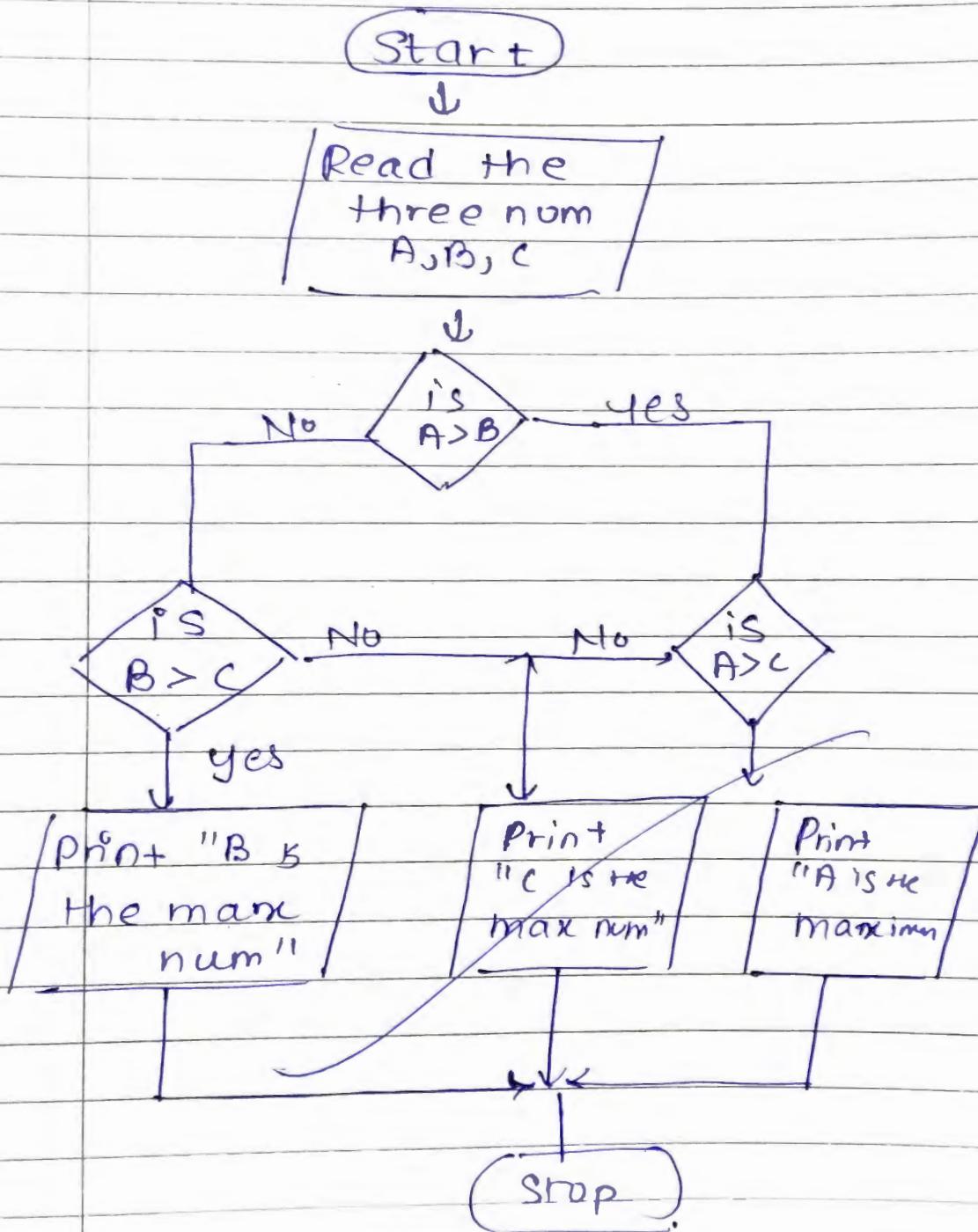
```
#include <stdio.h>
int main(void)
{
    int n1, n2, n3;
    printf("Enter three numbers\n");
    scanf("%d %d %d", &n1, &n2, &n3);
    if (n1 > n2)
    {
        if (n1 > n3)
            printf("%d is maximum\n", n1);
        else
            printf("%d is maximum\n", n3);
    }
    else
    {
        if (n2 > n3)
            printf("%d is maximum\n", n2);
        else
            printf("%d is maximum\n", n3);
    }
}
```

If your code goes here

return 0;

Output:

Enter three number 7 95 3
Number as is maximum



- 08 Write a C program to check whether the entered character is capital, small letter, digit or any special character.

```
#include <stdio.h>
int main(void) {
    char c1;
    printf("Enter a character\n");
    scanf("%c", &c1);
    if (c1 >= 65 && c1 <= 90) {
        printf("%c is Capital letter\n", c1);
    }
    else if (c1 >= 97 && c1 <= 122) {
        printf("%c is Small letter\n", c1);
    }
    else if (c1 >= 48 && c1 <= 57) {
        printf("%c is Digit\n", c1);
    }
    else {
        printf("%c is Special character\n", c1);
    }
    return 0;
}
```

Input
A

Output

Enter a character

A is capital letter.

09

Write a program to read marks from keyboard and your program should display equivalent grade according to following table(if else ladder)

Marks	Grade
100 - 80	Distinction
79 - 60	First Class
59 - 40	Second Class
< 40	Fail

```
#include <stdio.h>
int main(void)
{
    float m1;
    printf("Enter marks\n");
    scanf("%f", &m1);
    if (m1 >= 80)
    {
        printf("Your grade is Distinction\n");
    }
    else if (m1 >= 60)
    {
        printf("Your grade is First class\n");
    }
    else if (m1 >= 40)
    {
        printf("Your grade is Second class\n");
    }
    else
    {
        printf("You are Fail\n");
    }
}
```

3

return 0;

3

Output

Enter marks 89

Congratulations you have secured
Distinction.

10

Write a c program to prepare pay slip using following data.
Da = 10% of basic, Hra = 7.50% of basic, Ma = 300,
Pf = 12.50% of basic, Gross = basic + Da + Hra + Ma, Nt = Gross - Pf

source code

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

8

```
int n, ma = 300;
float da, hra, nt, pt, gross;
printf ("Enter your basics");
scanf ("%d", &n);
da = (n * 10) / 100;
hra = (7.50 * n) / 100;
pt = (12.50 * n) / 100;
nt = gross = pt;
gross = n + hra + ma;
printf ("Your gross is = %f",
       gross);
printf ("Your net is = %f", nt);
return 0;
```

3

Output

Enter your basics = 120

Your gross is = 1320

Your net is = 1170

Write a C program to find out the Maximum and Minimum number from given 10 numbers

Source code

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

{

```
int i, max, data; min;
```

```
for (i=1; i<=10; ++i)
```

{

```
printf("In Enter number %d", i);
```

```
scanf("%d", & data);
```

```
if (i==0)
```

```
max = data;
```

```
if (i==0)
```

```
min = data;
```

```
if (min>data)
```

```
min = data;
```

3

```
printf("In Maximum %d", max);
```

```
printf("In Minimum %d", min);
```

```
return 0;
```

3.

Output

Enter number 1: 8

Enter number 2 : 10

3 : 15

4 : 21

5 : 30

6 : 0

7 : 23

8 : 46

9 : 45

10 : 99

Maximum 99

Minimum 0

12

Write a C program to input an integer number and check the last digit of number is even or odd

Source code

```
# include <stdio.h>
```

```
int main()
```

```
{
```

```
    int n, a;
```

```
    printf ("Enter number ");
```

```
    scanf ("%d", &n);
```

```
    a = (n % 10);
```

```
    if ((a % 2 == 0))
```

```
        printf ("The number is even ");
```

```
    else
```

```
        printf ("The number is odd ");
```

```
    return 0;
```

```
}
```

Output

Enter number 578

The number is even.

13

Write a C program to find factorial of a given number.

Source code

```
#include <stdio.h>
int main()
{
    int n, i, fact = 1;
    printf("Enter number");
    scanf("%d", &n);
    for (i=1; i<=n; i++)
        fact = fact * i;
    printf("\n The factorial is %d", fact);
    return 0;
}
```

3

Output:

Enter number 5
The factorial is 120

Svit

14 Write a program to reverse a number.

```
# include <stdio.h>
int main()
{
    int n, reverse = 0, rem;
    printf("Enter a number:");
    scanf("%d", &n);
    while(n != 0)
    {

```

```
        rem = n % 10;
        reverse = reverse * 10 + rem;
        n /= 10;
    }
}
```

```
3
print("Reversed Number: %d", reverse);
return 0;
```

Output

Enter a number 123 →
Reversed Number: 321

Programming For Problem Solving (3110003)

Page 53

15

Write a program to generate first n number of Fibonacci series

```
#include<stdio.h>
int main()
{
    int i, n, t1=0, t2=1, nextTerm;
    printf("Enter the number of terms");
    scanf("%d", &n);
    printf("Fibonacci Series: ");
    for (i=1; i<=n; ++i)
    {
        printf("%d ", i);
        nextTerm=t1 + t2;
        t1 = t2;
        t2 = nextTerm;
    }
    return 0;
}
```

Write a program to find out sum of first and last digit of a given number.

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
int num, sum=0, first digit, last digit;
```

```
printf("Enter any number to find sum  
first and last digit: ");
```

```
scanf("%d", &num);
```

```
last digit = num % 10;
```

```
first digit = num / 10;
```

```
while (num >= 10)
```

```
{
```

```
    num = num / 10
```

```
}
```

```
first digit = num;
```

```
Sum = first digit + last digit,
```

```
printf ("sum of first and last digit  
= %d", sum);
```

```
return 0;
```

```
3
```

Input

Input number : 12345

Output

Sum of first and last digit = 6.

17

Write a C program to find the sum and average of different numbers which are accepted by user as many as user wants

Source code

```
# include <stdio.h>
```

```
int main()
```

```
{
```

```
int n, data, i, sum = 0;
```

```
float avg;
```

```
printf("In Enter how many nos.  
In");
```

```
scanf("%d", &n);
```

```
for (i=1, i<=n, ++i)
```

```
{
```

```
printf("In Enter the value %d In");
```

```
scanf("%d", &data);
```

```
sum += data;
```

```
}
```

```
avg = (float) sum / n;
```

```
printf("Sum is = %d", sum);
```

```
printf("In Average = %.2f In", avg);
```

```
return 0;
```

```
3.
```

Output

Enter how many nos = 3

Enter the value 1 65

Enter the value 2 99

Enter the value 3 73

Sum is 232

Average is 188.35

18

Write a program to calculate average and total of 5 students for 3 subjects (use nested for loops)

Source code

```
# include <stdio.h>
# define STUD-MAX 5
# define SUB - MAX 3
int main()
{
    int i; j, marks, total;
    float avg;
    for (i=1; i<=STUD-MAX; j++)
    {
        total = 0;
        for (j=1; j<=SUB-MAX; j++)
        {
            printf ("Enter marks of student %d and subject %d", i, j);
            scanf ("%d", &marks);
            total += marks;
        }
        avg = (float) total / SUB-MAX;
        printf ("Total of %d subject for student %d is %. SUB-MAX, avg);
    }
    return 0;
}
```

Output

* Enter marks of student 1 and sub 1 = 56
" " 2 = 78
" " 3 = 86

Total of 3 subjects for student 1 is 214

Average of 3 subject for student 1 is 71.333

* Enter marks of student 2 and sub 1. 90
" " 2 = 85
" " 3 = 74

Total of 3 subject for student 2 is 252

Average of 3 Subjects for student 2 is 84.00

* Enter marks of student 3 and sub 1 : 67
sub 2 : 72
sub 3 : 75

Total of 3 subject is 214 and avg is 71.333

19

Read five persons height and weight and count the number of person having height greater than 170 and weight less than 50.

Source code

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
int n, i, h, w, count=0;
```

```
printf("Enter no. of persons\n");
```

```
scanf("%d", &n);
```

```
for (i=1, i<=n; ++i)
```

```
{
```

```
printf("Enter height and weight\n");
```

```
scanf("%d %d", &h, &w);
```

```
if ((w <= 50) && (h >= 170))
```

```
    ++count;
```

```
printf("No. of persons with  
condition height >= 170 and weight <= 50 = %d", count);
```

```
return 0;
```

```
}
```

Output

```
Enter no. of persons 5
```

Enter height 1 & enter weight 157 66
Enter height 2 & Enter weight 212 62
Enter height 3 & enter weight 875 55
Enter height 4 & enter weight 168 58
Enter height 5 & enter weight 5172 4

The persons with condition is 1.

Write a program to check whether the given number is prime or not.

Source code

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
int n, i = 2, flag = 0;
```

```
printf ("Enter number");
```

```
scanf ("%d", &n);
```

```
while (i < n)
```

```
{
```

```
if (n % i == 0)
```

```
flag = 1;
```

```
break;
```

```
}
```

```
i++;
```

```
}
```

```
if (flag == 0)
```

```
printf ("The number is prime");
```

```
else
```

```
printf ("The number is not prime");
```

```
else
```

```
printf ("The number is not prime");
```

```
}
```

```
return 0;
```

```
}
```

Output

Enter number 9

The number is not prime

Write a program to evaluate the series $1^2 + 2^2 + 3^2 + \dots + n^2$

```
#include <stdio.h>
```

```
int main(void) {
```

```
    int i, n, ans = 0;
```

```
    printf("Enter the no. of terms");
```

```
    scanf("%d", &n);
```

```
    printf
```

```
    for (i=1; i<=n; i++)
```

```
{
```

```
    printf("%d ^ 2", i);
```

```
    if (i < n)
```

```
        printf("+");
```

```
    else
```

```
        printf("-");
```

```
    ans = ans + i * i;
```

```
}
```

```
printf("%d", ans);
```

```
return 0;
```

```
3.
```

Output

Enter no. upto which series is
to be found

Sum = 13.

Write a C program to find $1 + 1/2! + 1/3! + 1/4! + \dots + 1/n!$

#include <stdio.h>

```

int main(void) {
    int i, j, n, fact;
    float ans = 1.0;
    printf("Enter the no of terms");
    scanf("%d", &n);
    printf("n i");
    for(i=2; i<=n; i++) {
        printf(" + 1/i! ", i);
        fact = 1;
        for(j=1; j<=i; j++)
            fact = fact * j;
        ans = ans + (1.0 / fact);
    }
    printf("\nans = %f", ans);
    return 0;
}

```

Output

Enter no. upto series is to be
found 3

Sum = 1.6666

23

Write a program to print following patterns :

i * * * *	ii * * * * *	iii * * * * *	55555 4444 333 22 1
** * * *	* * * * *		
*** * * *	* * * * *		
**** * * *	* * * * *		
***** * * *	* * * * *		

Source code

include <stdio.h>

int main()

{

int n, i, j;

char data = '*';

printf("Enter n\n");

scanf("%d", &n);

for (i=1, j=n, i++)

{

for (j=1, j<=i, j++)

{

printf("%c", data);

}

printf("\n");

}

return 0;

}

Output

Enter n 5

```
*  
* *  
* * *  
* * * *  
* * * *
```

(2) #include <stdio.h>
int main()

{

int i, space, rows k=0
printf ("Enter no. of rows: ");
for (i=1; i<=rows; i++, k=0)

{

for (space = 1; space < rows - i; space++)

{

printf (" ");

3

while (k1 = 2*i - 1)

{

printf (" * ");

++ k;

3

printf ("\n");

return 0;

Output Enter no. of rows = 4.

*
* * *
* * * *
* * * * *

③

```
#include <stdio.h>
```

```
int main
```

```
{
```

```
int i, j, n, l;
```

```
printf ("Enter n: ");
```

```
scanf ("%d", &n);
```

```
cl=ng
```

```
for (i=1; i<=n; i++, l--)
```

```
{
```

```
for (j=1, j<=i; j++)
```

```
printf ("%");
```

```
for (j=1, j<=2 * l - 1, j++)
```

```
{
```

```
if (j%2 == 0)
```

```
printf ("%d", l),
```

```
else
```

```
printf (" " ) ,
```

```
3
```

```
printf ("\n") ,
```

```
return 0;
```

```
3
```

Output

Enter n: 5

5	5	5	5	5
4	4	2	4	
	3	3	3	
		2	2	
			1	

Write a C program to read and store the roll no and marks of 20 students using array

```
#include <stdio.h>
void main()
```

3

```
int i, j, n=20, a[20][5];
for (i=0, i<n, i++)
{
```

```
    printf ("Enter Roll no.");
    scanf ("%d", &a[i][0]);
    a[i][1]=0;
}
```

```
for (j=1, j<=3; j++)
{
```

```
    printf ("Enter marks %d");
    scanf ("%d", &a[i][j]);
    a[i][4] = a[i][4] + a[i][j];
}
```

3

```
for (j=0, j<5, j++)
{
```

```
    printf ("%d", a[i][j]);
}
```

3

```
printf ("\n");
```

3

3

Output

Enter Roll No. 18

Enter marks 4 78

Enter marks 4 81

Enter marks 4 66

18 78 81 66 226

25

Write a program to reverse string.

Source Code

```
#include <stdio.h>
#include <string.h>
int main()
{
    char data1[50], data2[50];
    int len, i;
    printf("Enter value of data1:\n");
    gets(data1);
    printf("* data1 *");
    printf("\n");
    len = strlen(data1);
    printf("\n length of string 1 = %d\n", len);
    for(i=0, i <= len-1; i++)
        data2[len - 1 - i] = data1[i];
    data2[len] = 0;
    printf("data2");
    printf("\n");
    return 0;
}
```

3

Output

Enter value of data1: Ayush

Ayush
length of string I = 5
hsuya.

Write a program to convert string into upper case

```
#include <stdio.h>
Void main()
{
    char str[50], str2[50];
    int i;
    printf ("Enter a string");
    gets (str);
    for (i=0; str[i] != '\0'; i++)
    {
        if (str[i] >= 'a' && str[i] <= 'z')
            str2[i] = str[i] - 32;
        else
            str2[i] = str[i];
    }
    str2[i] = '\0';
    puts (str2);
}
```

Output

Enter a string AYUSH

AYUSH

Write a program that defines a function to add first n numbers.

```
#include <stdio.h>
int add(int);
int main(void) {
    int n, result;
    printf("Enter the number\n");
    scanf("%d", &n);
    result = add(n);
    printf("\n Sum of first %d numbers is %d\n",
        n, result);
    result = 0;
}
int add(int s)
{
    int sum = 0;
    for (i = 1; i <= s; i++)
    {
        sum = sum + i;
    }
    return sum;
}
```

Input

5

Output

Enter the number

Sum of first 6 number is 15

23 Write a C program to use recursive calls to evaluate

$$F(x) = x - x^3/3! + x^5/5! - x^7/7! + \dots + (-1)^n x^n/n!$$

```
#include <stdio.h>
```

```
int f(int)
```

```
int p(int, int);
```

```
int main()
```

```
{
```

```
int n, x, i, power, fact, j;
```

```
float sentinel = 0;
```

```
printf ("Enter a no. n: ");
```

```
scanf ("%d", &n);
```

```
printf ("Enter a no. x: ");
```

```
scanf ("%f", &x);
```

```
j = 1,
```

```
for (j = 1; i <= n; i = i + 2, j + 1)
```

```
{
```

```
power = p(x, j);
```

```
fact = f(j);
```

```
If (j * 1 ? != 1)
```

```
power = power * -1;
```

~~Series = (float) power / fact;~~

~~printf ("\n\n %d → power %d",~~

~~fact = j, fact = j, i, power,~~

~~fact);~~

~~printf ("\n\n The series is %f", series);~~

~~return 0;~~

3

int P(x, n)

{

if (n == 1)

return x;

else

return x * P(x, n-1);

3

int f(n)

{

if (n == 1)

return 1;

else

return n * f(n-1);

3

Output

Enter a no: 5

Enter a no. x=2

The series is 0.9333...

29

Write a program to find factorial of a number using recursion.

```
#include <stdio.h>
int f(int);
int main()
{
    int fact = 1, n;
    printf("Enter no. :");
    scanf("%d", &n);
    fact = f(n);
    printf("Factorial of %d is %d", n, fact);
    return 0;
}

int f(n)
{
    if (n == 0)
        return 0;
    else
        return n * f(n - 1);
}
```

. 3 .

Write a C program using global variable, static variable.

Source code of global variable.

```
#include <stdio.h>
```

```
int p=1, q=1;
{ int main()
```

```
{
```

```
void dummy();
```

```
int a=1, b=1;
```

```
printf("n p=%d, q=%d\n", p, q);
```

```
p=2, q=2;
```

```
printf("n a=%d b=%d p=%d,
q=%d\n", a, b, p, q);
```

```
dummy();
```

```
printf("n p=%d q=%d\n", p, q);
```

```
return 0;
```

3

```
void dummy()
```

```
{ p=3, q=4;
```

3

Output

p=1, q=1

a=1, b=1 p=

Source code for static variable.

```
# include <stdio.h>
```

```
int main()
```

```
2
```

```
Void dummy();
```

```
dummy();
```

```
dummy();
```

```
dummy();
```

```
return 0;
```

```
3
```

```
Void dummy()
```

```
4
```

~~Static int count=1;~~~~printf("In this UDF has been~~~~called %d times\n", count);~~~~++ count;~~~~5~~

31

Define a structure type `struct personal` that would contain person name, date of joining and salary using this structure to read this information of 5 people and print the same on screen.

Source code

```
#include <Stdio.h>
#define MAX 5
int main()
{
    struct emp
    {
        int age, salary;
        char doj[10];
    };
    struct emp e[MAX];
    int i;
    for (i=0; i<=MAX-1; ++i)
    {
        printf("\nEnter value of age > d: ");
        scanf("%d", &e[i].age);
        printf("\nEnter value of salary > ");
        scanf("%d", &e[i].salary);
        printf("\nEnter date of joining > doj: ");
        scanf("%s", e[i].doj);
    }
    for (i=0; i<=MAX-1; ++i)
        printf("Age of emp %d is = %d, ",
```

Q Date Of joining = "In" e[i], age,
e[i]. salary, e[i]. doj);
3

return 0;
3.

Output

Enter value of age = 24

Enter value of salary & Doj =
14000 & 2019119

Age of emp is 24 , salary
= 14000 & Date Of joining = 2019119

Define structure data type called time struct containing three member's integer hour, integer minute and integer second. Develop a program that would assign values to the individual number and display the time in the following format:
16: 40:51

Source code.

```
#include <stdio.h>
typedef struct time
{
    int hour, minute, second;
} time_struct;

int main()
{
    time_struct time;
    printf("Enter hour, min & second\n");
    scanf("%d %d %d", &time.hour, &time.minute, &time.second);

    if (time.hour < 24 && time.hours == 0) {
        if (time.minute < 60 && time.minute == 0) {
            if (time.second < 60 && time.second == 0)
                printf("The time is %d : %d : %d\n", time.hour, time.minute, time.second);
        }
    }
    else
        printf("In wrong input\n");
```

return 0;

3

Output

Enter hour, minute & second 21 56 32
The time is 21:56:32

Define a structure called cricket that will describe the following information:

Player name
Team name
Batting average

Using cricket, declare an array player with 50 elements and write a C program to read the information about all the 50 players and print team wise list containing names of players with their batting average.

```
#include <stdio.h>
#define play_no 50
Struct play-data
{
    Char p_name[50], t_name[50];
    int batt-avg;
}
Int main()
{
    Struct play-data d[play_no];
    printf("In collecting data\n");
    for (i=0, i<play_no, i++)
    {
        printf("Enter name: ");
        gets(d[i].pname);
        printf("Enter Team name: ");
        gets(d[i].tname);
        printf("Enter Batting avg: ");
        scanf("%d", &d[i].batt_avg);
    }
    printf("In printing data");
}
```

```
for (i=0; i<play nos; i++)  
    {  
        printf("player name: %s\n", d[i].  
            pname),  
        printf("Team name: %s\n", d[i].  
            tname),  
        printf("Batting avg: %d\n", d[i].  
            batt-avg);  
    }  
}
```

3.

```
return 0;
```

3

Output

Collecting data

Enter name: Ayush

Enter team : Rockstars

Enter batting avg: 67

printing data

Player name : Ayush

team name: Rockstars

Batting avg: 67

Design a structure student record to contain name, branch and total marks obtained. Develop a program to read data for 10 students in a class and print them.

```
#include <stdio.h>
struct Student_record {
```

{

```
    char name[50], branch[50];
    int tm;
} st[10];
```

```
void main()
```

{

```
int i;
```

```
for (i=0; i<=10; i++)
```

{

```
    printf("Enter student's Name");
    scanf("%s", st[i].name);
```

```
    printf("Enter student's Branch:");
    scanf("%s", st[i].branch);
```

```
    printf("Enter student's total marks:");
    scanf("%d", &st[i].tm);
}
```

```
for (i=0, i<=10, i++)
```

8

```
printf ("In Student %d's name is  
%s , %s , st[i].name) ;
```

```
printf ("In student %d's branch is  
%s , %s , st[i].branch) ;
```

```
printf ("In student %d's total  
marks is %d" , %s , st[i].tm) ;
```

3

3

Output

Enter student's Name: Ayush.

Enter student's Branch: EC

Student 1's total marks is 96

Student 1's name is : Ayush

student 1's Branch is : EC

student 1's total marks is 90

Svit

35

Write a C program to swap the two values using pointers.

```
#include <stdio.h>
```

```
int main()
```

S

```
int x, y, *a, *b, t;
```

```
printf("Enter the value of x");
```

```
scanf("%d", &x);
```

```
printf("Enter the value of y");
```

```
scanf("%d", &y);
```

```
printf("Before Swapping nx=%d
```

```
ny=%d in", x, y);
```

$a = \&x;$

$b = \&y;$

$t = *b;$

$*b = *a;$

$*a = t;$

~~printf("After swapping nx=%d ny=%d in", x, y);~~

return 0;

3.

Output

Enter the value of x: 3

Enter the value of y : 1

Before Swapping

$$x = 3$$

$$y = 1$$

After swapping

$$x = 1$$

$$y = 3$$

Write a program for sorting using pointer.

```
#include <stdio.h>
```

```
int main()
```

{

```
int i, j, t, *ptr, n = 5;
```

```
int a[5] = {20, 23, 14, 12, 9};
```

```
ptr = a or r;
```

```
for (i = 0; i < n; i++)
```

{

```
for (j = i + 1; j < n; j++)
```

{

```
i + c[j] = *(ptr + j) < *(ptr + i))
```

{

```
t = *(ptr + i);
```

```
*(ptr + i) = *(ptr + j);
```

```
*(ptr + j) = t;
```

}

3

3

```
for (i = 0; i < n; i++)
```

```
printf("%d", *(ptr + i));
```

```
return 0;
```

3

Output

0, 9, 12, 14, 23.

37

A file named data contains series of integer numbers. Write a c program to read all numbers from file and then write all odd numbers into file named "odd" and write all even numbers into file named "even". Display all the contents of these file on screen.

```

#include <stdio.h>
#include <conio.h>
#include <process.h>
void main()
{
    int a, n, i;
    FILE *fp1, *fp2, *fp3, ...
    clrscr();
    fp1 = fopen("DATA", "w");
    if (fp1 == NULL)
    {
        printf("File could not open!! ");
        exit(0);
    }
    printf("How many nos? ");
    scanf("%d", &n);
    printf("Enter contents of DATA file:\n");
    for (i=0; i<n; i++)
    {
        scanf("%d", &a);
        if (a % 2 == 0)
            putw(a, fp1);
        else
            putw(a, fp2);
    }
}

```

3

`fclose (fp1)`

`fp1 = fopen ("DATA", "U")`

`fp2 = fopen ("ODD", "W")`

`fp3 = fopen ("EVEN", "W")`

`if (fp1 == NULL || fp2 == NULL || fp3 == NULL)`

3

`printf ("FILE couldn't open.\n");`

`exit (0);`

3

`while (ca = gets (fp1)) != EOF)`

{

`if (ca % 2 == 0)`

`putw (ca, fp2);`

`else`

`putw (ca, fp3);`

3

~~`fclose (fp1);`~~

~~`fclose (fp2);`~~

~~`fclose (fp3);`~~

~~`fp2 = fopen ("ODD", "U");`~~

~~`fp3 = fopen ("EVEN", "W");`~~

~~`If (fp2 == NULL || fp3 == NULL)`~~

2

`printf ("FILE couldn't open");`

`exit (0);`

3

```
printf ("\n contents ODD file : \n");  
while ((a = gets (fp2)) != EOF)
```

```
printf (" %d ", a);
```

```
printf ("\n contents of EVEN file: \n");  
while ((a = gets (fp3)) != EOF)
```

```
printf (" %d ", a);
```

```
fclose (fp2);
```

```
fclose (fp3);
```

```
getchar ();
```

3

Output:

How many numbers? : 8

Enter content of DATA file

1 2 3 4 5, 6 7 8

Contents of ODD file

1 3 5 7

Content of EVEN file

2 4 6 8

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