**C PROGRAMMING**

**PRACTICAL 1:-** Basic input/output operations

#1 PROGRAM TO READ TWO INTEGER NUMBER AND TWO FLOATING NUMBERS

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b;

printf("Enter two integers:");

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

float x,y;

printf("enter two float numbers:");

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

getch();

}

#2 PROGRAM TO INPUT MARKS AND CALCULATE SUM AND PERCENTAGE OF MARKS

#include<stdio.h>

#include<conio.h>

#include<math.h>

int main()

{

int m1,m2,m3,m4,m5,sum;

float percentage;

printf("Enter five subjects marks of a student:-");

scanf("%d%d%d%d%d",&m1,&m2,&m3,&m4,&m5);

sum= m1+m2+m3+m4+m5;

// scanf("%d",sum);

printf("Sum of marks is:");

printf("%d",sum);

percentage= (sum/500.0)\*100.0;

printf("\nthe percentage of student is:");

printf("%f", percentage );

return 0;

}

#3 PROGRAM TO CALCULATE SIMPLE INTERST AND COMPOUND INTEREST BY READ PRINCIPAL ,RATE AND TIME FROM USER

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

float p,r,t,ci,si;

printf("Enter the principal:-", "%f",p);

scanf("%f",&p);

printf("Enter the rate:-", "%f",r);

scanf("%f",&r);

printf("Enter the time:-", "%f",t);

scanf("%f",&t);

si=(p\*r\*t)/100.0;

printf("the simple interest of values is:-");

printf("%f", si);

ci= p\*(pow(1+r/100, t)-1);

printf("the compound interest of values:-");

printf("%f", ci);

getch();

}

#4 PROGRAM TO CALCULATE AREA AND CIRCUMFERENCE OF CIRCLE

#include<stdio.h>

#include<conio.h>

void main()

{

float radius,area,circumference;

printf("enter the radius of circle:");

scanf("%f",&radius);

printf("the area of circle is:");

area= 3.14\*radius\*radius;

printf("%f", area);

printf("the circumference of circle is:");

circumference= 2\*3.14\*radius;

printf("%f",circumference);

getch();

}

#5 PROGRAM TO READ TEMPERATURE IN CENTIGRATE AND CONVERT INTO FAHRENHEIT

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

float F,C;

printf("Enter the temperature in Centigrate:-");

scanf("%f", &C);

F= (9\*C/5)+32;

printf("The temperature in fahrenheit:-");

printf("%f", F);

getch();

}

#6 PROGRAM TO SWAPS VALUES OF TWO VARIABLE USING THIRD VARIABLE

#include<stdio.h>

#include<conio.h>

void main()

{

int a;

int b;

int temp;

printf("enter two numbers:-");

scanf("%d",&a);

scanf(" %d", &b);

temp=a;

a=b;

b=temp;

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

printf("b= %d", b);

getch();

}

#7 PROGRAM TO SWAPS VALUES OF TWO VARIABLE WITHOUT USING THIRD VARIABLE

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b;

printf("Enter two numbers:-");

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

a=a+b;

b=a-b;

a=a-b;

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

getch();

}

#8 PROGRAM TO CALCULATE AND PRINT AREA OF TRIANGLE WHERE SIDES ARE GIVEN AS INPUT

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

int a,b,c,s,area;

printf("Enter the sides of triangle:-");

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

s=(a+b+c)/2;

area= sqrt(s\*(s-a)\*(s-b)\*(s-c));

printf("the area of triangle is:=");

printf("%d", area);

getch();

}

**PRACTICAL 2:** Program to implement conditional statements

#1 PROGRAM TO CHECK THE NUMBERS ARE EQUAL OR NOT

#include<stdio.h>

#include<conio.h>

void main()

{

int num1,num2;

printf("Enter two numbers:");

scanf("%d%d",&num1,&num2);

if(num1==num2)

{

printf("the given numbers are equal");

}

else{

printf("the given numbers are not equal");

}

getch();

}

#2 PROGRAM TO FIND THE GREATEST NUMBER OF THREE NUMBERS

#include<stdio.h>

#include<conio.h>

void main()

{

int n1,n2,n3;

printf("Enter three numbers:-");

scanf("%d%d%d", &n1,&n2,&n3);

if(n1>n2 && n1>n3)

{

printf("n1 is greatest");

}

else if(n2>n1 && n2>n3)

{

printf("n2 is greatest");

}

else if(n3>n1 && n3>n2)

{

printf("n3 id greatest");

}

getch();

}

#3 PROGRAM TO CHECK WHETHER THE GIVEN NUMBER IS EVEN OR ODD

#include<stdio.h>

#include<conio.h>

void main()

{

int number;

printf("enter the number:-");

scanf("%d",&number);

if(number%2==0)

{

printf("number is even");  }

else{

printf("number is odd");}

getch();

}

#4 PROGRAM TO CHECK THE YEAR IS LEAP YEAR OR COMMON YEAR

#include <stdio.h>

int main()

{

int year;

printf("Enter year : ");

scanf("%d", &year);

/\*

\* If year is exactly divisible by 4 and year is not divisible by 100

\* or year is exactly divisible by 400 then

\* the year is leap year.

\* Else year is normal year

\*/

if(((year % 4 == 0) && (year % 100 !=0)) || (year % 400==0))

{

printf("LEAP YEAR");

}

else

{

printf("COMMON YEAR");

}

return 0;

}

#5 PROGRAM TO CALCULATE WORKING HOURS OF PERSON FOR GIVEN AGE

#include<stdio.h>

#include<conio.h>

void main()

{

int age;

printf("Enter your age:-");

scanf("%d", &age);

if(age<=10)

{

printf("the working hours are:- 0 hours");

}

else if(age>=11 && age<=15)

{

printf("the working hours are:- 0 hours");

}

else if(age>=16 && age<=20)

{

printf("the working hours are:- 3 hours");

}

else if(age>=21 && age<=25)

{

printf("the working hours are:- 6 hours");

}

else{

printf("the working hours are:- 8 hours");

}

getch();

}

#6 PROGRAM TO FIND ROOTS OF A QUADRATIC EQUATION

#include <stdio.h>

#include <math.h>

int main() {

float a, b, c, discriminant, x1, x2, r, i;

printf("coefficient of x^2: ");

scanf("%f", &a);

printf("coefficient of x: ");

scanf("%f", &b);

printf("constant term: ");

scanf("%f", &c);

discriminant = pow(b,2) - 4\*a\*c;

if(discriminant > 0) {

x1 = (-b + sqrt(discriminant))/(2\*a);

x2 = (-b - sqrt(discriminant))/(2\*a);

printf("x1 = %.2f \n", x1);

printf("x2 = %.2f \n", x2);

} else if (discriminant == 0) {

x1 = -b/(2\*a);

x2 = -b/(2\*a);

printf("x1 = %.2f \n", x1);

printf("x2 = %.2f \n", x2);

} else {

r = -b/(2\*a);

i = sqrt(-discriminant)/(2\*a);

printf("x1 = %.2f +i %.2f \n", r, i);

printf("x2 = %.2f -i %.2f \n", r, i);}

return 0;

}

#7 PROGRAM TO PRINT GIVEN NUMBER IS EVEN OR ODD USING CONDITIONAL OPERATOR

#include <stdio.h>

int main()

{

    int num;

    /\* Input a number from user \*/

    printf("Enter any number to check even or odd: ");

    scanf("%d", &num);

    (num%2 == 0) ?  printf("The number is EVEN")  : printf("The number is ODD");

    return 0;

}