```c
#include <stdio.h>

int main()
{
    char a = 'x';
    printf("a =%c\n",a) ;

    return 0;
}
```

```
/******************************************************************************

Welcome to GDB Online.
  GDB online is an online compiler and debugger tool for C, C++, Python, PHP, Ruby,
  C#, OCaml, VB, Perl, Swift, Prolog, Javascript, Pascal, COBOL, HTML, CSS, JS
  Code, Compile, Run and Debug online from anywhere in world.

*******************************************************************************/
```

```c
#include <stdio.h>

int main()
{
    int a;
    char b;
    float c;
    long d;
    double g;
    short h;

    printf("size of a = %d\n",sizeof(a));
    printf("size of b = %c\n",sizeof(b));
    printf("size of c = %f\n",sizeof(c));
    printf("size of d = %f\n",sizeof(d));
    printf("size of g = %d\n",sizeof(g));
    printf("size of h = %d\n",sizeof(h));


    return 0;
}
```

```c
#include <stdio.h>

int main()
{
    int AC=160;
    int CB=50;
    int AB=AC+CB;

    printf("total distance is =%d\n",AB);


    return 0;
}
```

```c
#include <stdio.h>

int main()
{
    unsigned char AC=160;
    unsigned char CB=50;
    unsigned char AB=AC+CB;

    printf("total distance is =%d\n",AB);



    return 0;
}
```

```c
#include <stdio.h>

int main()
{
    unsigned char AC=160;
    unsigned char CB=50;
    unsigned char AB=AC+CB;
    printf("Address of AC =%p  Address of CB =%p  Address of AB =%p" ,&AC,&CB,&AB);
    printf("total distance is =%d\n",AB);



    return 0;
}
```

```c
int main()
{
    int a=10;
    int b=20;
    printf("addition of a and b is=%d\n",a+b);
    printf("substraction of a and b is=%d\n",a-b);
    printf("multiplicaton of a and b is=%d\n",a*b);

    printf("increment of a is=%d\n",++a);
    printf("decrement of b is=%d\n",--b);

    return 0;
}
```

```c
#include <stdio.h>

int main()
{
    int a = 25, b = 5;
    printf("a < b: %d \n", a<b);
    printf("a > b: %d \n", a>b);
    printf("a <= b: %d \n", a<=b);
    printf("a >= b: %d \n", a>=b);
    printf("a != b: %d \n", a!=b);
```

```c
    printf("a == b: %d \n", a==b);
    return 0;
}
```

```c
#include <stdio.h>

int main()
{
    int a = 2;
    int c=((a/2)*2);
    if(c==a){
        printf("a is even");
    }
    else{
        printf("a is odd");
    }
}
```

1.Write a program to perform addition, subtraction, multiplication, division, and modulus operations on two user-provided integers.

```c
#include <stdio.h>
int main()
{
    int a,b;
    printf("enter a number:\n");
    scanf("%d",&a);
    printf("enter a number:\n");
    scanf("%d",&b);
    printf("addition of a and b is=%d\n",a+b);
    printf("substraction of a and b is=%d\n",a-b);
    printf("multiplicaton of a and b is=%d\n",a*b);
    printf("modulus of a and b is=%d\n",a%b);
    printf("increment of a is=%d\n",++a);
    printf("decrement of b is=%d\n",--b);

    return 0;
}
```

2.Average of five numbers

```c
#include <stdio.h>
void main(){
    int a,b,c,d,e,X;
    printf("enter a number:\n");
    scanf("%d",&a);
    printf("enter a number:\n");
    scanf("%d",&b);
    printf("enter a number:\n");
    scanf("%d",&c);
    printf("enter a number:\n");
    scanf("%d",&d);
    printf("enter a number:\n");
    scanf("%d",&e);
    printf("average of five numbers is= %d",X=(a+b+c+d+e)/5);

}
```

3.Area and Permeter of a Rectangle

```c
#include <stdio.h>
void main(){
    int a,b,P,A;
    printf("enter the length:\n");
    scanf("%d",&a);
    printf("enter the width:\n");
    scanf("%d",&b);
    printf("area of a rectangle is:%d",A=a*b);

    printf("perimeter of a rectangle is:%d",P=2*(a+b));

}
```

4.Compound Interest

```c
#include <stdio.h>
void main(){
    int p,r,n,A;
    printf("enter the Principal:\n");
    scanf("%d",&p);
    printf("enter the rate ofinterest:\n");
    scanf("%d",&r);
    printf("enter the time period:\n");
    scanf("%d",&n);
    printf("compount interest is:%d",A=p*(1+(r/100))^n);

}
```

5.Temperature Conversion

```c
#include <stdio.h>
void main(){
    int T,C,F;
    printf("enter the temperature:\n");
    scanf("%d",&T);
    printf("enter the celsius:\n");
    scanf("%d",&C);
    printf("temperature from Celsius to Fahrenheit is:%d",F=(9/5)*C+32);

}
```

6.Hypotenuese Calculation

```c
#include <stdio.h>
void main(){
    int a,b,H;
    printf("enter the height :\n");
    scanf("%d",&a);
    printf("enter the base:\n");
    scanf("%d",&b);
    printf("hypotenuese of the triangle is:%d",H=((a^2 + b^2))^(1/2));


}
```

7.Area and Curcumference

```c
#include <stdio.h>
void main(){
    int r,A,C;
    printf("enter the radius :\n");
    scanf("%d",&r);
    printf("Area of the Circle is:%d \n",A=3.14*r*r);
    printf("Curcumference of the circle is:%d",C=2*3.14*r);


}
```
8.Profit and Loss

```c
#include <stdio.h>
void main(){
    int s,c,P,L;
    printf("enter the selling price:");
    scanf("%d",&s);
    printf("enter the cost price:");
    scanf("%d",&c);
    printf("PROFIT is:%d \n",P=(s-c));
    printf("LOSS is:%d",L=(c-s));


}
```

9.Swapping of two numbers

```c
#include <stdio.h>
void main(){
    int a,b;
    printf("enter the values of a and b");
    scanf("%d %d",&a,&b);
    a=a+b;
    b=a-b;
    a=a-b;
    printf("the value of a=%d and b=%d",a,b);

}
```
10.Sum of three digits of a number

```c
#include <stdio.h>
void main(){
    int num,sum=0;
    printf("enter a three digit number:");
    scanf("%d",&num);
    while(num>0){
        int lastdigit=num%10;
        sum=sum+lastdigit;
        num=num/10;
    }
    printf("the sum is %d",sum);
}
```

1.Checking two numbers
```c
#include <stdio.h>
```

```c
void main(){
    int a,b;
    printf("enter two numbers:");
    scanf("%d %d",&a,&b);
    if(a==b){
        printf("both are equal");
    }
    else
    {
    printf("both are not equal");
    }
    elseif(a>b){
        printf("a is greater");
    }
    elseif(b>a){
        printf("b is greater");
    }
    else{
        printf("not numbers");
    }
}
```

2.Vote Eligibility
```c
#include <stdio.h>
void main(){
    int a,b;
    printf("enter the age of a person:");
    scanf("%d",&a);
    if(a>=18){
        printf("person can vote");
    }
    else{
        printf("person cannot vote");
}}
```

3.Checking triangle
```c
#include <stdio.h>
void main(){
    int a,b,c;
    printf("enter the side1:");
    scanf("%d",&a);
    printf("enter the side2 :");
    scanf("%d",&b);
    printf("enter the side3:");
    scanf("%d",&c);
    if((a+b)>c||(b+c)>a||(a+c)>b){
        printf("it is a triangle");
    }
    else{
        printf("not a triangle");
}}
```

 4.Highest mark checking
```c
#include <stdio.h>
void main(){
    int a,b;
    printf("enter the mark of student1:");
    scanf("%d",&a);
```

```c
    printf("enter the mark of student2 :");
    scanf("%d",&b);
    if(a>b){
        printf("student1 got higher mark");
    }
    else if(b>a){
        printf("student2 got higher mark");
    }
    else{
        printf("both their mark is same");
    }
}
```

5.Three numbers
```c
#include <stdio.h>
void main(){
    int num1,num2,num3;
    printf("enter num1:");
    scanf("%d",&num1);
    printf("enter num2 :");
    scanf("%d",&num2);
    printf("enter num3 :");
    scanf("%d",&num3);
    if(num1>num2){
        if(num1>num3)
        printf("num1 is greater");

        else{
            printf("num3 is greater");
        }
    }
    else if(num2>num3){
        printf("num2 is greater");
    }
    else{
        printf("num3 is greater");
    }
}
```

 6.Leap year
```c
#include <stdio.h>

    int main() {
    int a;

    printf("Enter a year: ");
    scanf("%d", &a);

    if ((a % 4 == 0 && a % 100 != 0) || (a% 400 == 0)) {
        printf("%d is a leap year.\n", a);
    } else {
        printf("%d is not a leap year.\n", a);
    }

    return 0;
}
```
7.Thresholod voltage

```c
#include <stdio.h>
void main(){
    int t;
    printf("enter a threshold voltage:");
    scanf("%d",&t);
    if(t>40)
    {
        printf("threshold v is more warning");
    }
    else{
        printf("normal voltage");
    }
    }
```
8.Divisiblity

```c
#include<stdio.h>
void main()
{
    int a,b;
    printf("Enter the values\n");
    scanf("%d",&a);
    scanf("%d",&b);
    if(a%b==0)
    printf("a is divisible by b\n");
    else
    printf("a is not divisible by b\n");
}
```
9.Password

```c
#include<stdio.h>
void main()
{
    int len;
    printf("Enter length of password\n");
    scanf("%d",&len);
    if(len>=8)
    printf("Meets minimum requirement");
    else
    printf("Does not meet minimum requirement");
}
```
10.Student Eligibility

```c
#include<stdio.h>
int main(){
    int age,gender;
    printf("enter the student age");
    scanf("%d",&age);
    printf("enter the student age");
    scanf("%d",&age);
    if(age>18&&grade>50){
        printf("eligible");
        }
    else{
        printf("not eligible");
        }}
```