#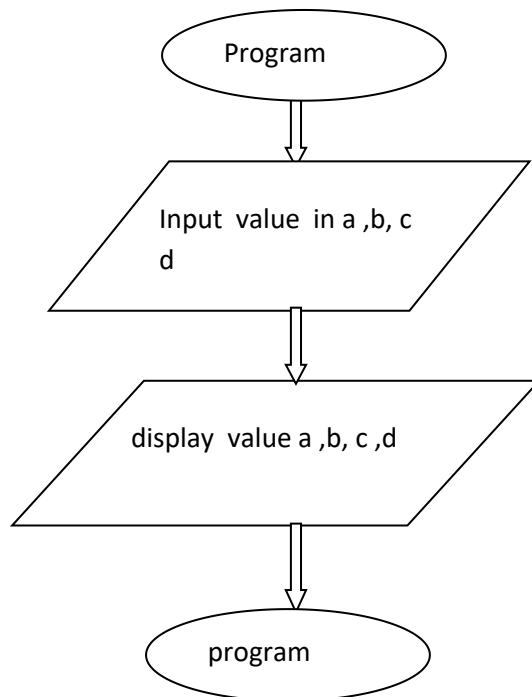 Q1. Write a program in which to declare all data type like integer ,double,float,long int  and print value in specified format

## Answer-:

**Algorithm-*:***

1. Program start.
2. Declaration of variable a , b, c and d
3. Input the value in variable
4. Display the value of a , b , c and d
5. Program end

**Flowchart-:**

```
            ( Program )
                 │
                 ▼
        ╱─────────────────╲
       ╱  Input  value in  ╲
      ╱   a ,b, c           ╲
      ╲   d                 ╱
       ╲───────────────────╱
                 │
                 ▼
        ╱─────────────────╲
       ╱ display  value a , ╲
      ╱  b, c ,d            ╲
      ╲                     ╱
       ╲───────────────────╱
                 │
                 ▼
            ( program )
```

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>

#include<conio.h>

void main()

{int a;

   double b;

   float c;

   long int d;

  printf("enter the value of a,b,c and d ");

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

   printf("value of a=%d b=%lf c=%f d=%d",a,b,c,d);
   getch();

  }
```
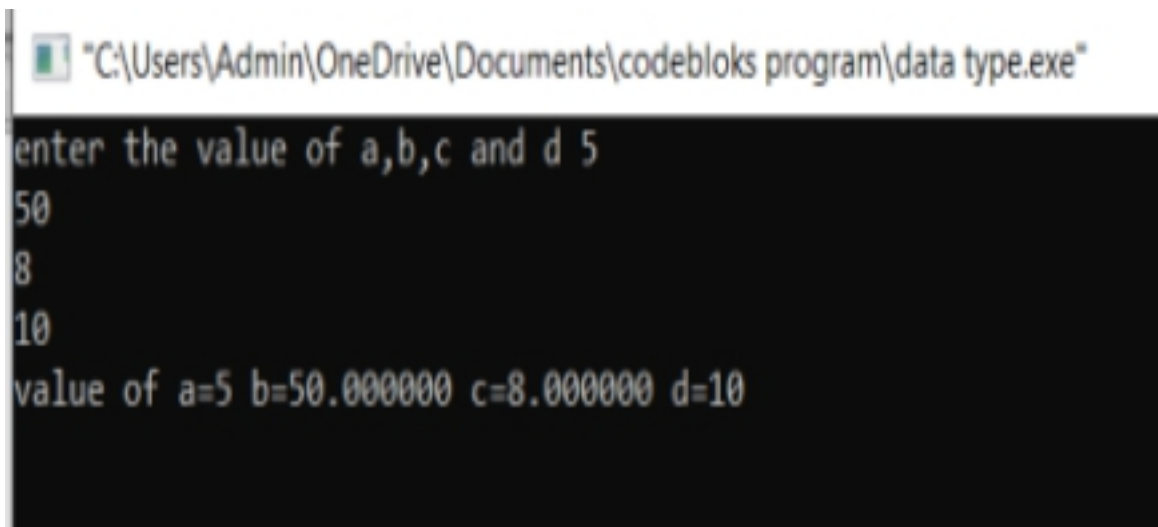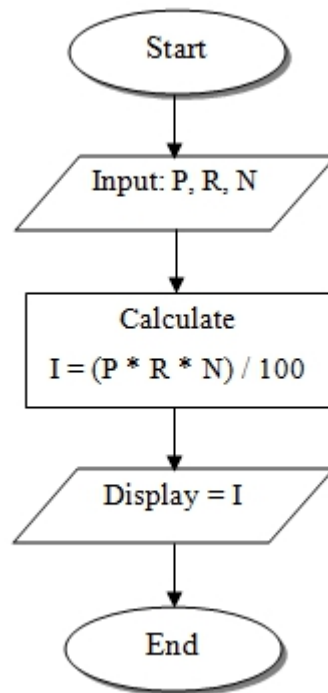
**OUTPUT-:**

# Q 2. Write a program to calculate the simple interest.

**Answer-:**

**Algorithm -:**

1) Program start.
2) Declaration of variable with their data type, like :-

   float p,r,t;

   float SI;
3) Input the value in variable
4) Arithmetic operator used to perform SI=(p*r*t)/100;
5) Printf( ) called to print value of variable
6) Program end.

**Flowchart-:**

**Coding  for the program-:**
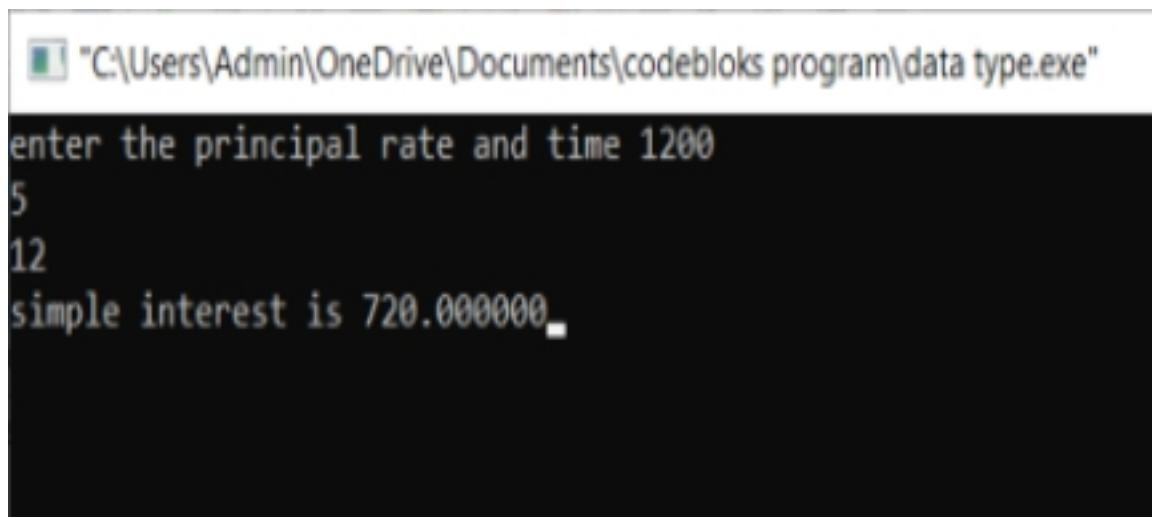
**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{
   int p,r,t;
   float si;
   printf("enter the principal , rate and time");
   scanf("%d %d %d",&p,&r,&t);
   si=p*r*t/100;
   printf("simple interest is %f",si);
   getch();
}
```

**OUTPUT-:**

# Q 3. Write a program to find the average of three number.

**Answer-:**

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter the number of value

4) Assign the value in variable

5) Run arithmetic operator

6) Print output(Answer)

7) Stop.

**Flowchart:-**

```
                    Start

          Declare a,b,c as int
          and average as float

            Take input from
                 user

            Avg=(a+b+c)/3.0

                 Print

                  Stop
```
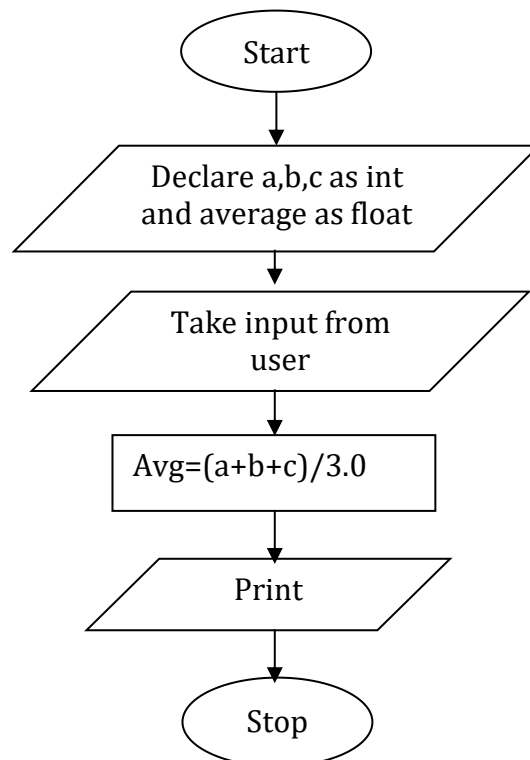
**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{
  int a,b,c;
  float avg;
  printf("enter three number");
  scanf("%d%d%d",&a,&b,&c);
  avg=a+b+c/3.0;
  printf("average is %f",avg);
  getch();
}
```

**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

enter three number 12
10
5
average is 23.666666_
```

# Q 4. Write a program to compare two no by using of ternary operator in c

## Answer-:

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter the number of value

4) Check the condition, ternary (conditional) operator.
   Display answer according the condition

5) Stop.

**Flowchart-:**
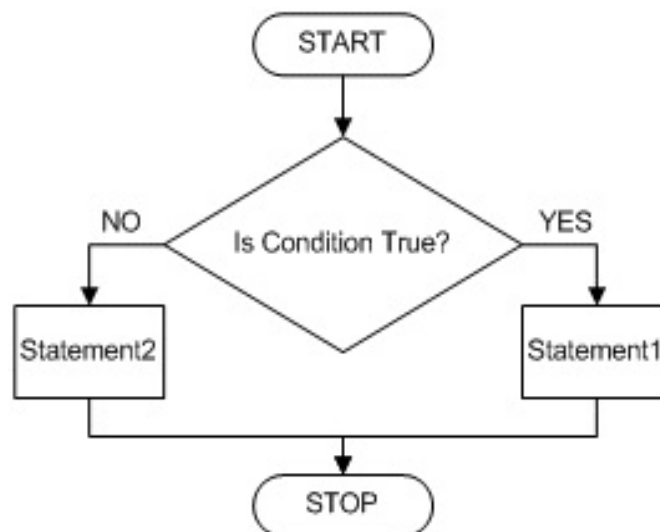
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>
#include<conio.h>
void main()
{
  int a,b;
  printf("enter two number");
  scanf("%d%d",&a,&b);
  printf("greater no is %d",a>b?a:b);
  getch();
    }
```
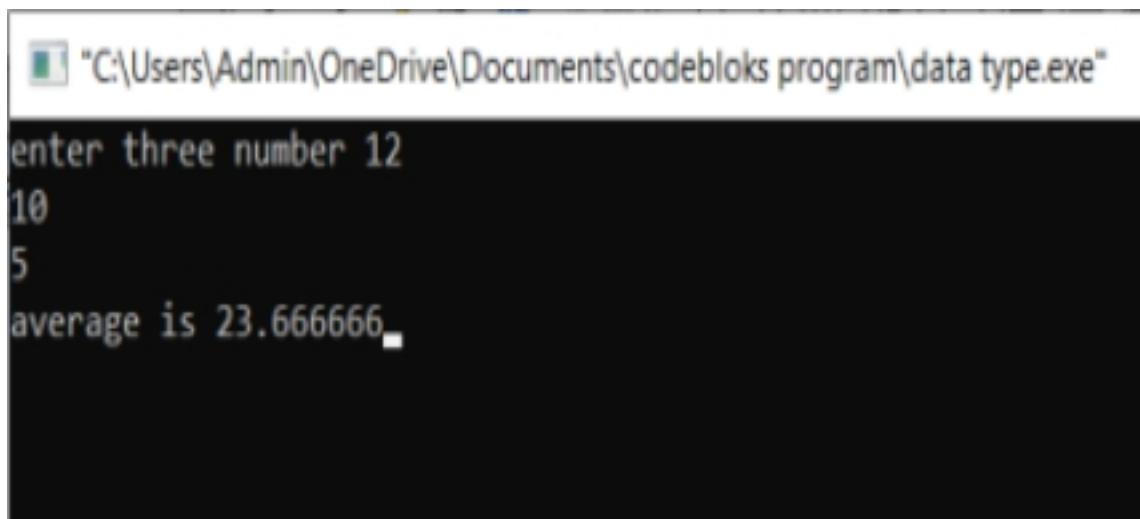
**OUTPUT-:**
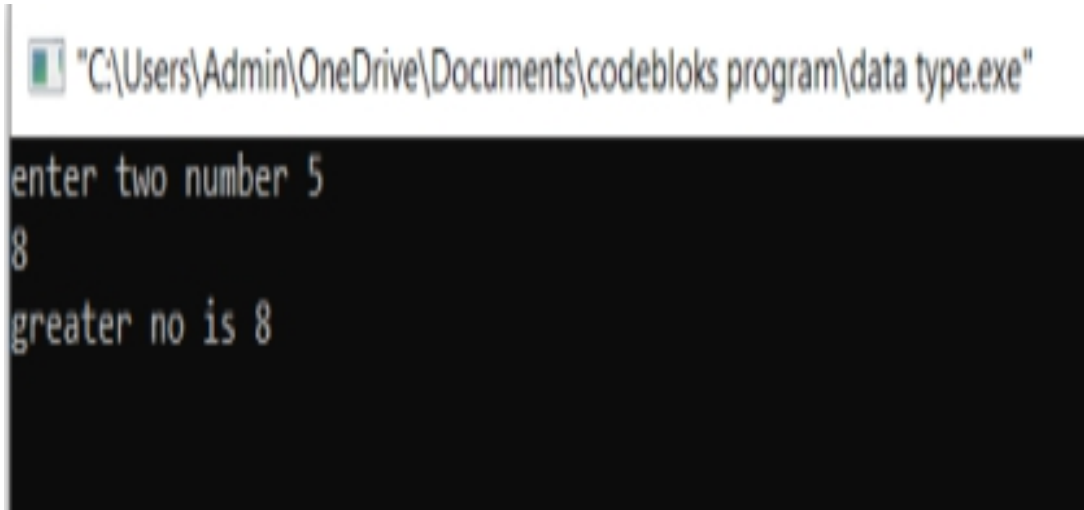
# Q 5. Write a program to use of bitwise operator (left shift and right shift).

**Answer-:**

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter the number of value

4) It print value and value of left &right shift

5) Stop

**Flowchart-:**
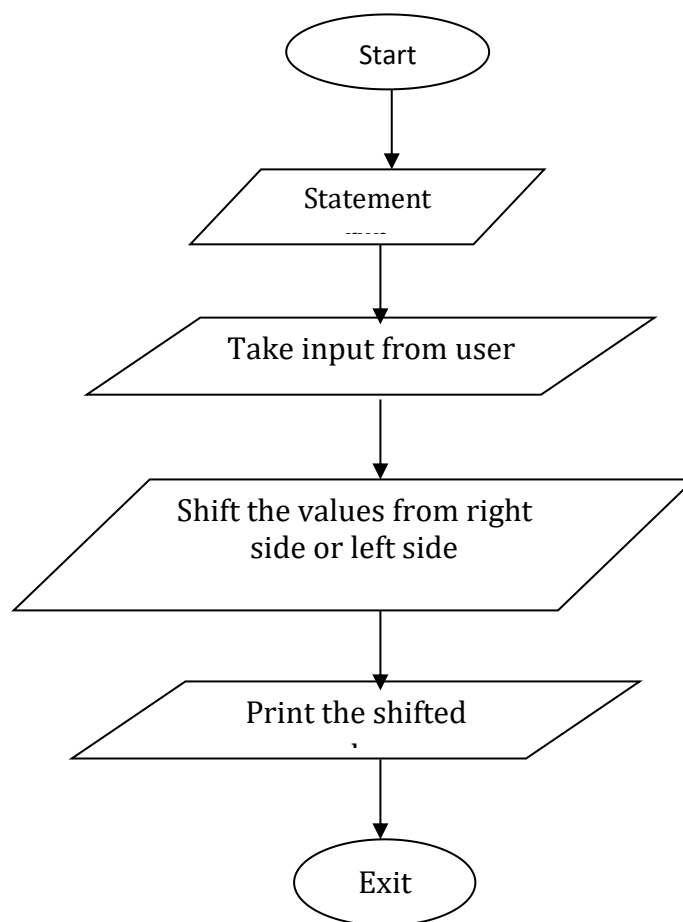
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{
 int x;
 x=56;
 printf("befor any shifting the value is %d\n",x);
 x=56<<2;
 printf("after left shifting the value is %d\n",x);
 x=56>>2;
 printf("after right shifting the value is %d",x);
 getch();
}
```
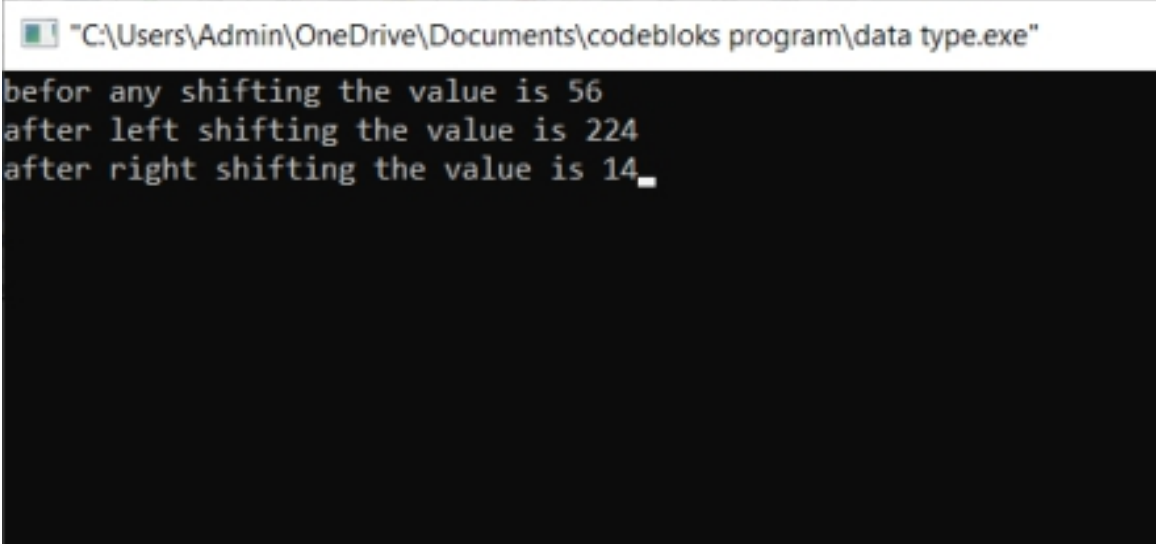
**OUTPUT-:**

"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
befor any shifting the value is 56
after left shifting the value is 224
after right shifting the value is 14
```

# Q 6. Write a program in c to convert the temperature centigrade into fahreheit.

## Answer-:

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter temperature in Celsius

4) Fahrenheit conversion formula

5) Print result

6) Stop

**Flowchart-:**
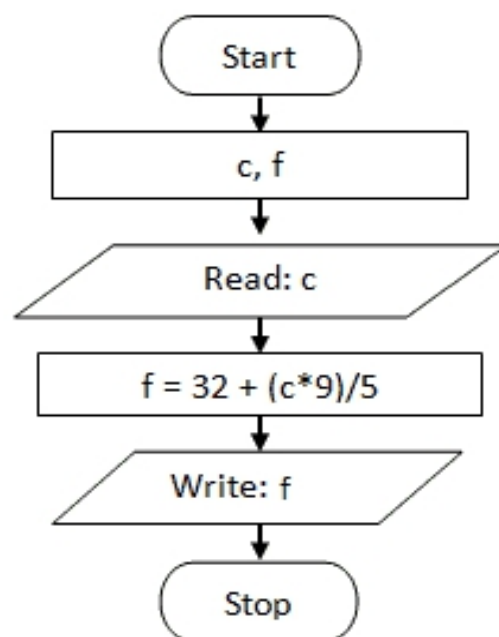
**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{
  float c, f;
  printf("enter the centigrade");
  scanf("%f",&c);
  f=c*9/5+32;
  printf("temprecture in fahreheit is %f",f);
  getch();
}
```

**OUTPUT-:**

# Q 7. Write a program in c for increment and decrement operator.

**Answer-:-**

**Algorithm-:**

1) Start
2) Declaration of variable

3) Increment or decrement in value from oprater

4) Output

5) Stop

**Flowchart-:**

```
        ┌─────────────┐
        │    Start    │
        └──────┬──────┘
               │
               ▼
    ┌──────────────────────┐
    │ Declaration of variable │
    └──────────┬───────────┘
               │
               ▼
    ╱──────────────────────╲
   ╱   Increment or          ╲
   ╲     decrement          ╱
    ╲──────────┬───────────╱
               │
               ▼
    ╱──────────────────────╲
   ╱    Print output         ╲
    ╲──────────┬───────────╱
               │
               ▼
        ┌─────────────┐
        │    Stop     │
        └─────────────┘
```
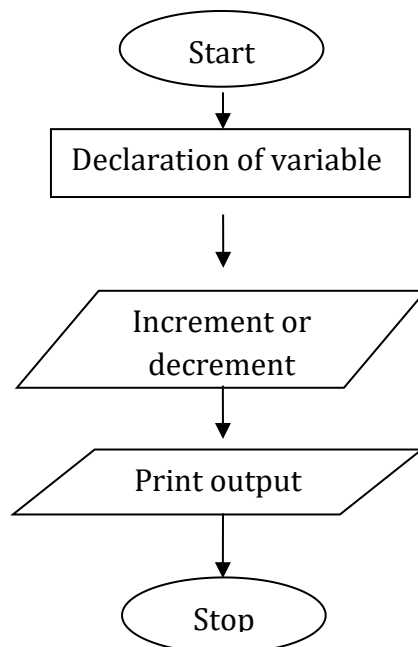
**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{  int x=5;
   x++;        // post increment operater
  printf("x= %d\n",x);
  ++x;        //pre increment operater
  printf("x= %d\n",x);
  x--;        //post decrement operater
  printf("x= %d\n",x);
  --x;        //pre decrement operater
  printf("x= %d\n",x);
  getch();
}
```
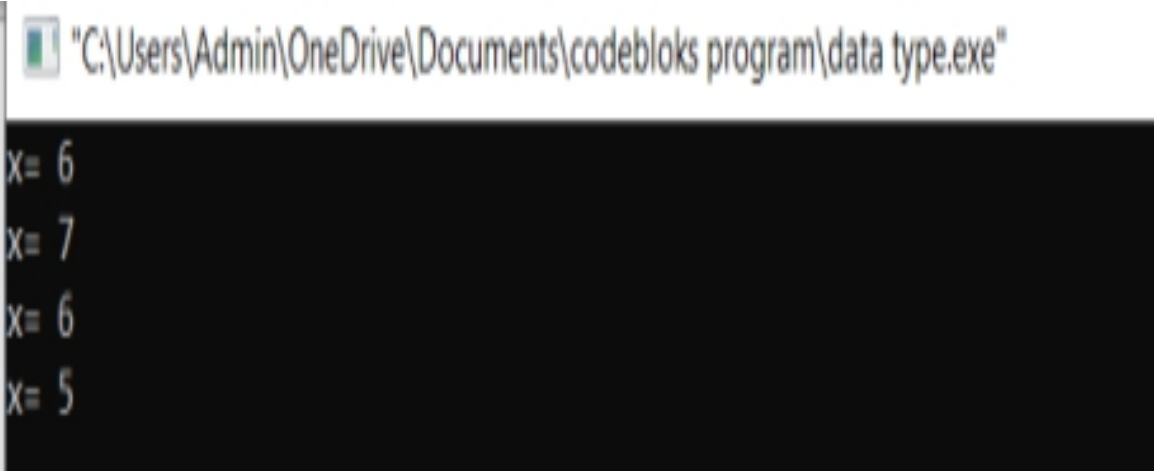
**OUTPUT-:**

# Q 8. Write a program to check whether enter year is leap or not(if …else)

**Answer-:**

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter year to check leap year or not

4) Check condition

5) Give answer according to condition

6) Stop

**Flowchart:-**
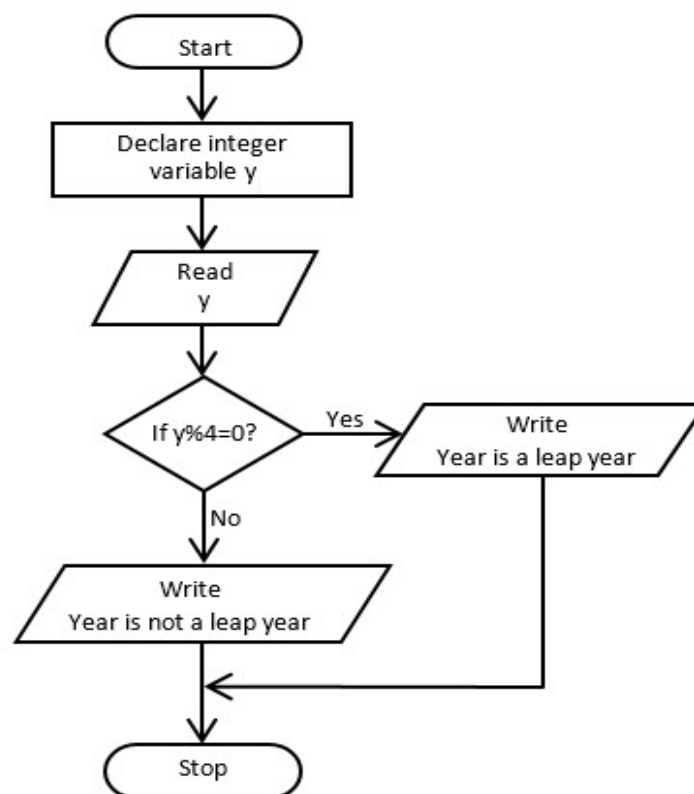
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{  int year;
  printf("enter the year");
  scanf("%d",&year);
  if(year%100==0)
  {  if(year%400==0)
      printf("leap year");
      else
      printf("not a leap year");
  }
  else
   { if(year%4==0)
      printf("leap year");
    else
      printf("not a leap year");
   }
  getch();    }
```
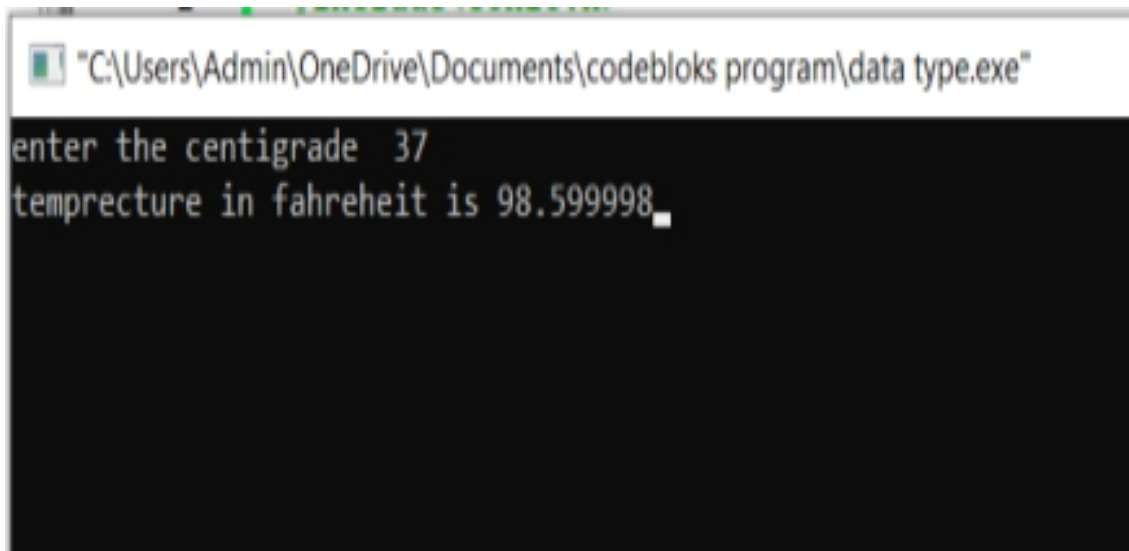
**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

enter the year   2019
not a leap year
```
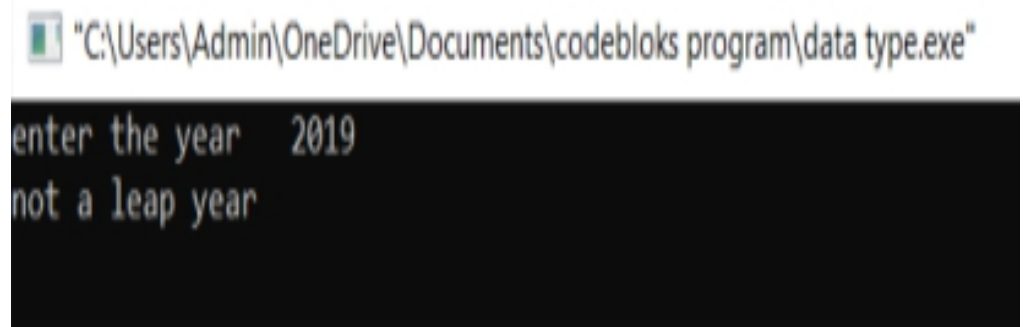
# Q 9. Write a program to find even and odd no by using if else statement.

**Answer-:**

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter the number

4) Assign the value in variable

5) Check condition

6) Give answer according to condition

7) Stop

**Flowchart: -**
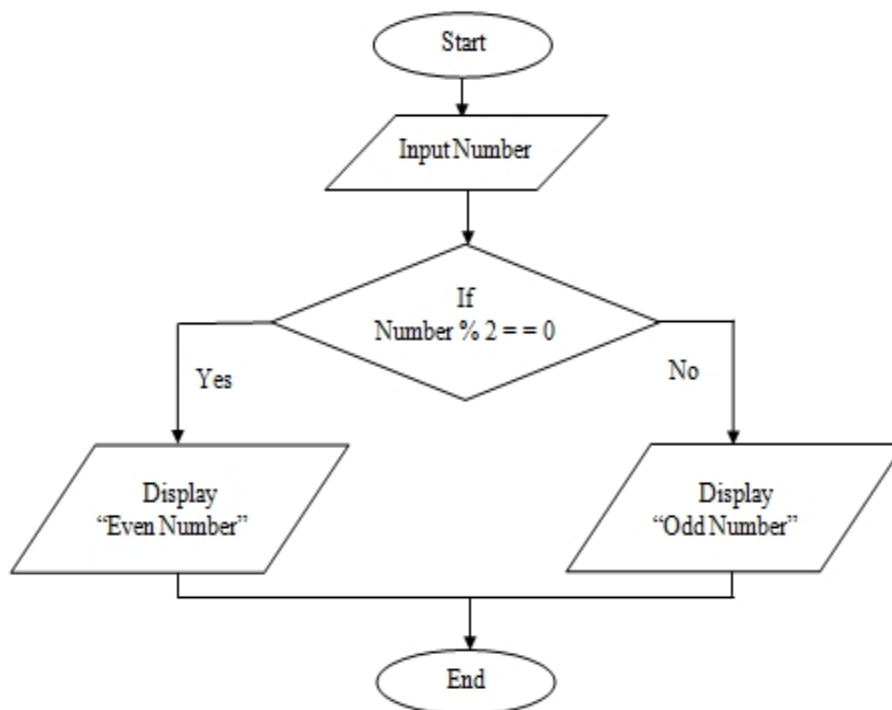
**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{
    int x;
    printf("enter a number");
    scanf("%d",&x);
    if(x%2==0)
        printf("even nuber");
    else
        printf("odd number");
    getch();
}
```

**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\odd2.exe"

enter a number  13
odd number
```
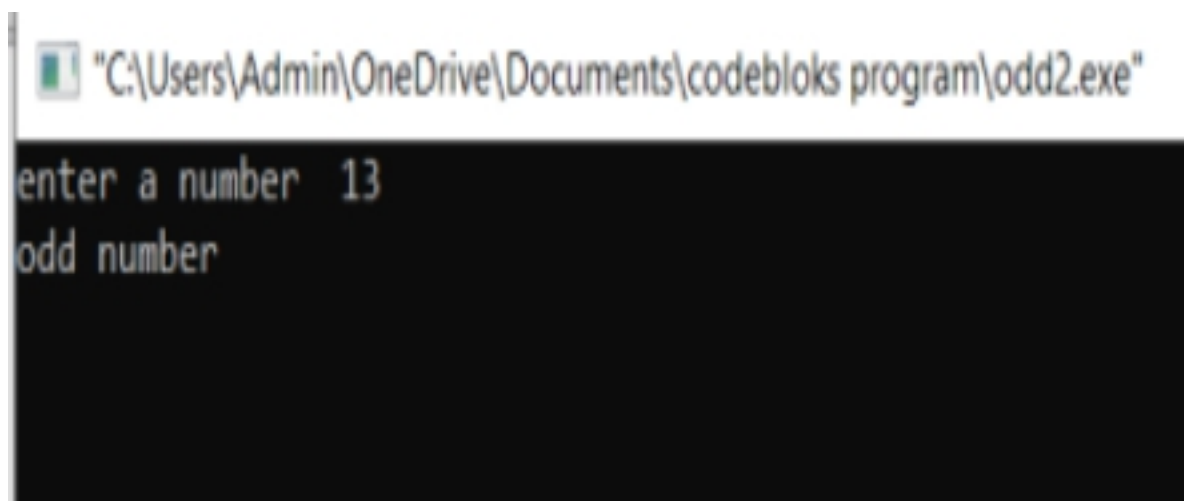
# Q 10. Write a program to find largest among three no using nested if statement

**Answer-:**

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter the number

4) Assign the value in variable

5) Check condition

6) Give answer according to condition

7) Stop

**Flowchart:-**
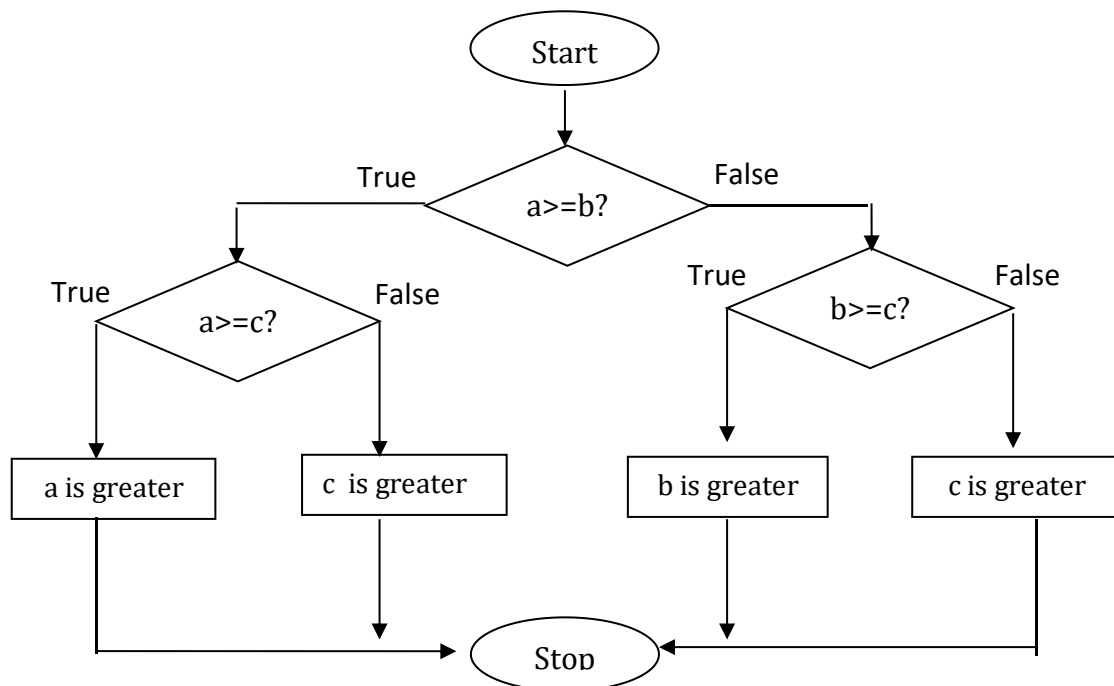


**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

```
#include<stdio.h>
#include<conio.h>
void main()
{  int a,b,c,z;
   printf("enter three number");
   scanf("%d %d %d",&a,&b,&c);
   if(a>b)  {
     if(a>c)
        z=a;
     else
        z=c;
   }
   Else  {  if(b>c)
        z=b;
     else
        z=c;
   }
   printf("greater number is %d",z) ;
   getch();  }
```

**OUTPUT-:**



```
enter three number 5 15 25
greater number is 25
```
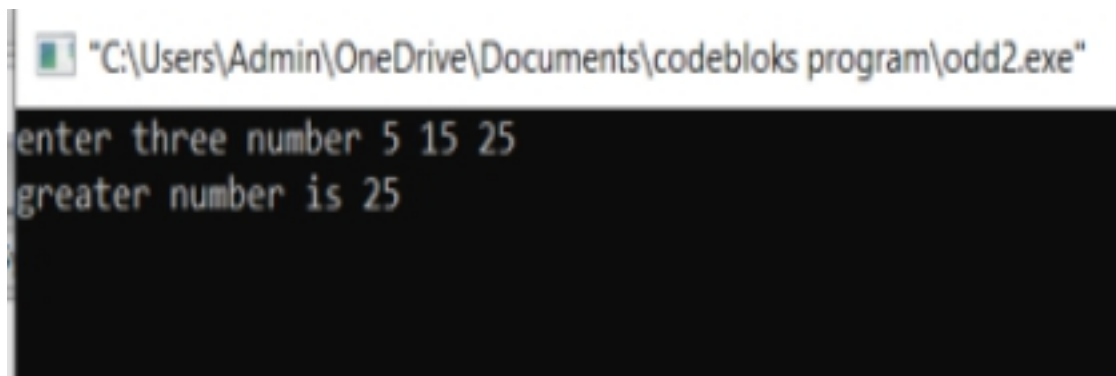
**Q 11. Write a program to take input of 5 subject . find total and calculate percent. On the basis of percent provide grade like:**

        **IF Per > 80 "A+"**

        **Per >= 65 and per <=80 "A"**

        **Per > =50 and per <=65 "B"**

        **Per >= 42 and per <=50 "C"**

        **Per < 42 "Fail"**

**Answer-:**

**Algorithm-:**

1) Start
2) Declaration of variable
3) Enter the subject marks
4) Assign the value in variable
5) Check condition
6) Give answer according to condition
7) **Stop**

**Flowchart: -**



Start

True ← [Per>=8] → False

A+

True ← [Per<80&&per>=6] → False

A

True ← [Per<65&&per>=5] → False

B

True ← [Per<50&&per>=4] → False

C          Fail

Stop
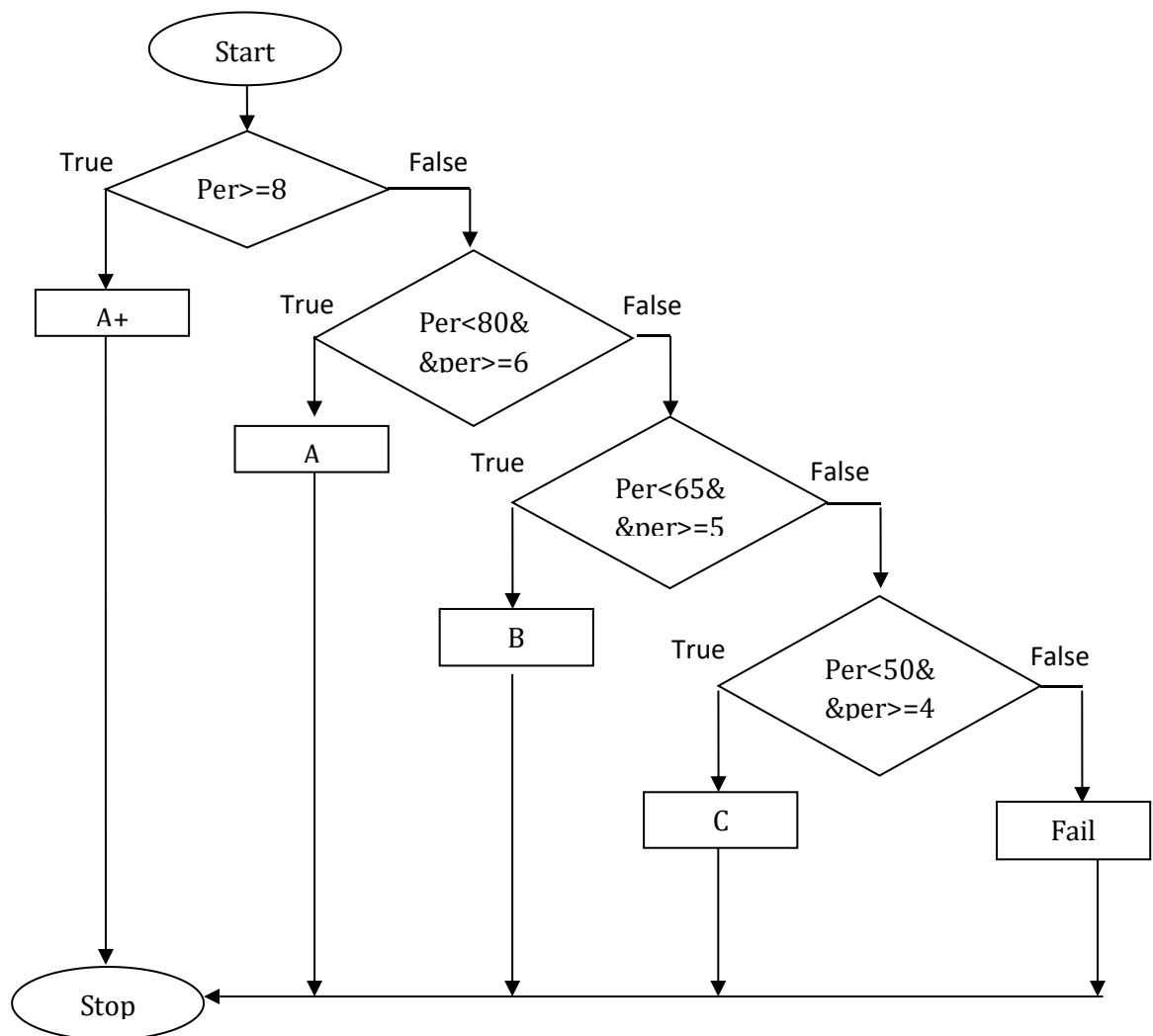
**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>

#include<conio.h>

void main()

{  int a,b,c,d,e,total;

    float per;

    printf("enter your marks");

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

```c
total=a+b+c+d+e;

printf("\ntotal marks is %d\n",total);

per=total*100/(5.0*100);

printf("percent is %f\n",per);

if(per>80)

 printf("A+");

else{  if(per>=65&&per<=80)

      printf("A");

 else  { if(per>=50&&per <=65 )

         printf("B");

   else {  if(per >= 42 && per <=50  )

             printf("C");

    else

        printf("Fail");

      }

    }

  }

getch();

}
```
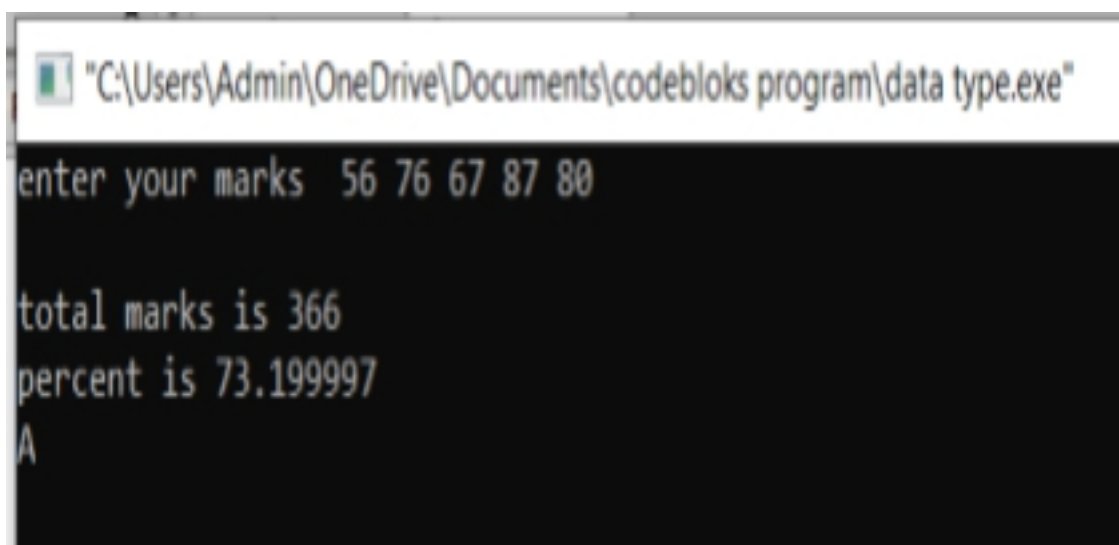
**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

enter your marks  56 76 67 87 80


total marks is 366
percent is 73.199997
A
```

**Q 12. Write a program in C to read any Month Number in integer and display Month name in. the word.(using switch case)**

**Answer-:**

**Algorithm: -**

         1) Start

         2) Declaration of variable

         3) Enter month number

         4) Assign the value in variable

         5) Pass number in switch() case

         6) Give answer according to value

         **7)** Stop

**Flowchart: -**

```
                        ┌─────────┐
                        │  Start  │
                        └────┬────┘
                             │
                        ┌────┴────┐
                        │  Month  │
                        └────┬────┘
                             │
                      ╱──────┴──────╲
                      │ Switch: Read │
                      │    month     │
                      ╲──────┬──────╱
                             │
     Case 1 ─────────────→ ╱ Januar ╱ ──────→ ◯
                             │                 │
     Case 2 ─────────────→ ╱ Februar ╱ ─────→ ◯
                             │                 │
     Case 3 ─────────────→ ╱ March ╱ ───────→ ◯
                             │                 │
     Case 4 ─────────────→ ╱ April ╱ ───────→ ◯
                             │                 │
     Case 5 ─────────────→ ╱ May ╱ ─────────→ ◯
                             │                 │
     Case 6 ─────────────→ ╱ June ╱ ────────→ ◯
                             │                 │
     Case 7 ─────────────→ ╱ July ╱ ────────→ ◯
                             │                 │
     Case 8 ─────────────→ ╱ August ╱ ──────→ ◯
                             │                 │
     Case 9 ─────────────→ ╱ Septembe ╱ ────→ ◯
                             │                 │
     Case 10 ────────────→ ╱ Octobe ╱ ──────→ ◯
                             │                 │
     Case 11 ────────────→ ╱ Novembe ╱ ─────→ ◯
                             │                 │
     Case 12 ────────────→ ╱ Decemb ╱ ──────→ ◯
                             │                 │
                             ◯                 │
                             │                 │
                        ┌────┴────┐            │
                        │  Stop   │ ←──────────┘
                        └─────────┘
```
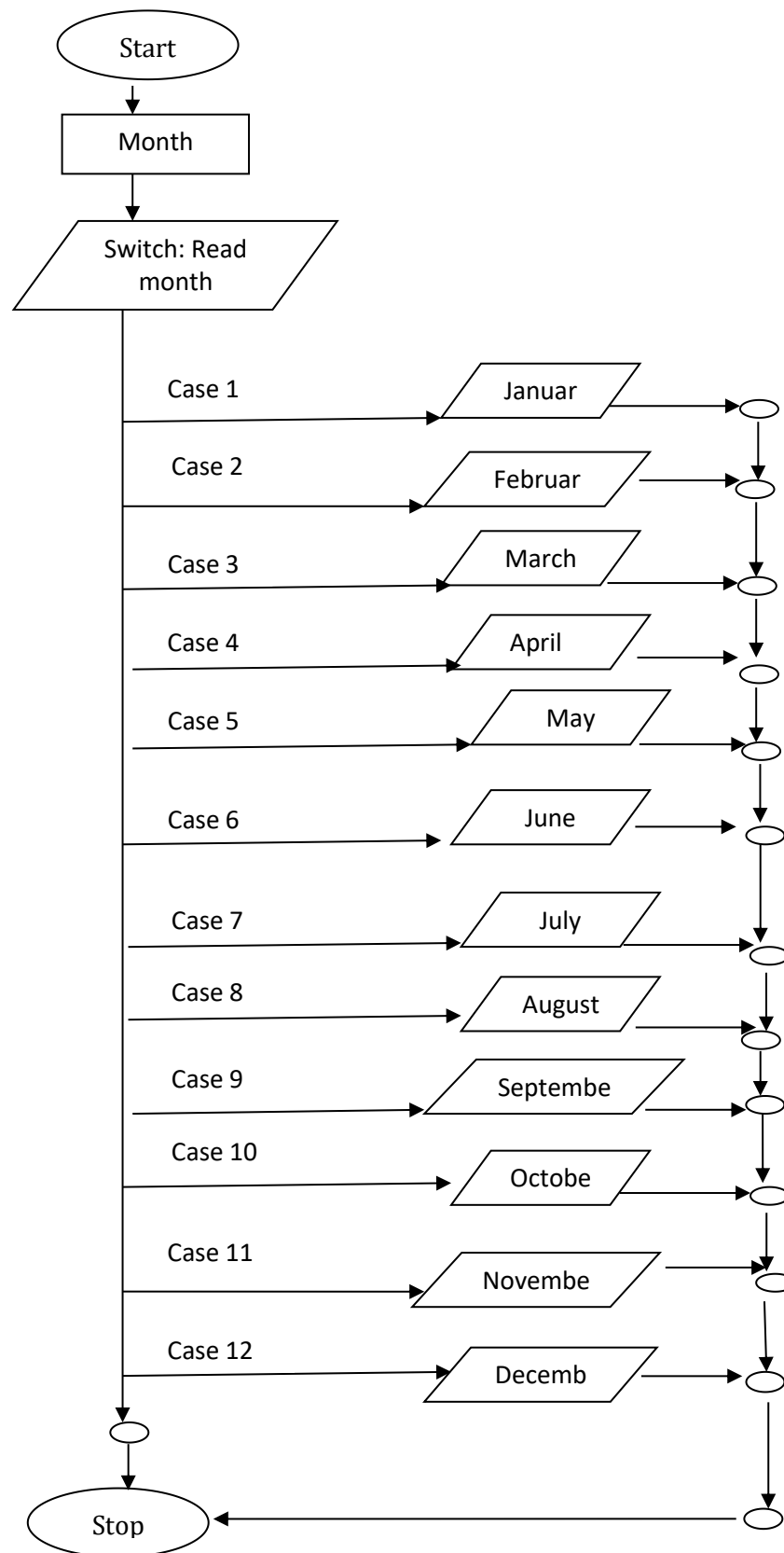
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{
   int choise;
   printf("\n enter the month number");
   scanf("%d",&choise);
   switch(choise)
   {
      case 1: printf("Month is :  January");
          break;
      case 2: printf("Month is :  February");
          break;
      case 3: printf("Month is :  March");
          break;
      case 4: printf("Month is :  April");
          break;
      case 5: printf("Month is :  May");
          break;
      case 6: printf("Month is :  June");
          break;
      case 7: printf("Month is :  July");
          break;
      case 8: printf("Month is :  August");
```

```c
                       break;

         case 9: printf("Month is :  September");

                  break;

         case 10: printf("Month is :  October");

                  break;

         case 11: printf("Month is :  November");

                  break;

         case 12: printf("Month is :  December");

                  break;

         default : printf("invalid number");

   }

   getch();


}
```
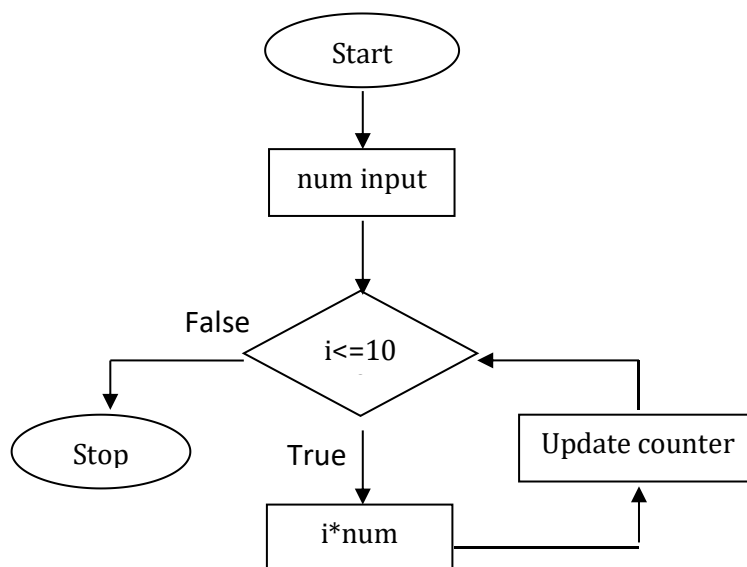
**OUTPUT-:**

## Q13. Write a program to print multiplication table of given number.

**Answer-:**

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter the number

4) Assign the value in variable

5) Check condition

6) Give answer according to condition

7) Stop

**Flowchart: -**

```
                    ┌─────────┐
                    │  Start  │
                    └─────────┘
                         │
                         ▼
                   ┌───────────┐
                   │ num input │
                   └───────────┘
                         │
                         ▼
        False         ◇ i<=10 ◇ ◄──────────┐
      ┌──────────────                       │
      ▼                                ┌──────────────┐
  ┌────────┐        True │             │Update counter│
  │  Stop  │             ▼             └──────────────┘
  └────────┘        ┌─────────┐               ▲
                    │  i*num  │───────────────┘
                    └─────────┘
```

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{  int num,i;
   printf("enter a number");
   scanf("%d",&num);
   for(i=1;i<=10;i++)
   {
      printf("%d*%d = %d\n",num,i,num*i);
   }
 getch();
}
```
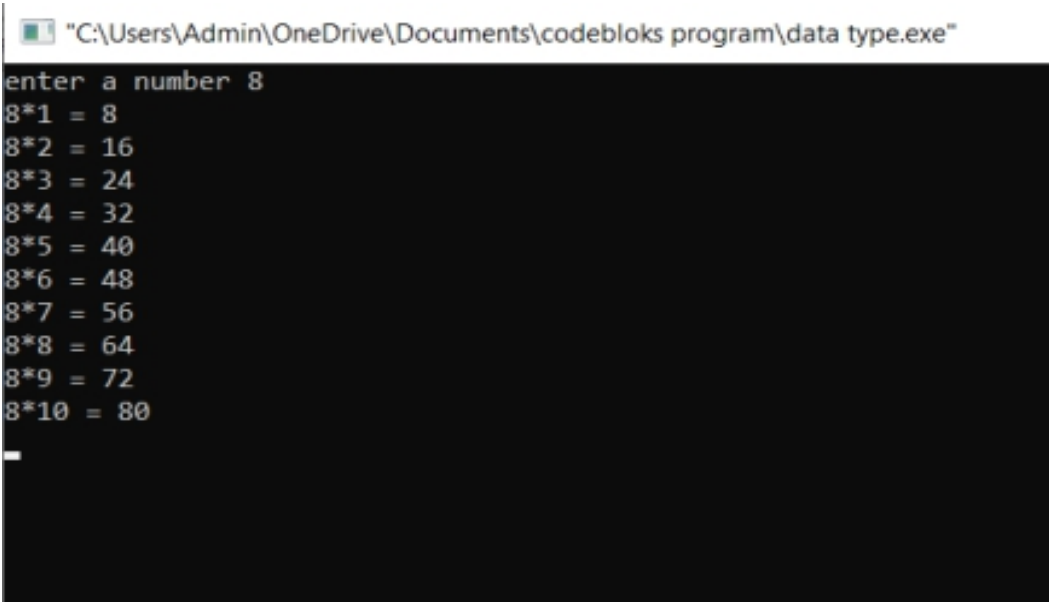
**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
enter a number 8
8*1 = 8
8*2 = 16
8*3 = 24
8*4 = 32
8*5 = 40
8*6 = 48
8*7 = 56
8*8 = 64
8*9 = 72
8*10 = 80
```

## Q14. Write a program by using switch case if user enter 11 it will have are area of circle and when user enter 22 it will have area of rectangle and when user enter 33 it will give area of square when user enter 44 it will give area of triangle.

**Answer-:**

**Algorithm**-:

1) Start
2) Declaration of variable
3) Enter number
4) Assign the value in variable
5) Pass number in switch() case
6) Give answer according to value
7) Stop

**Flowchart-:**
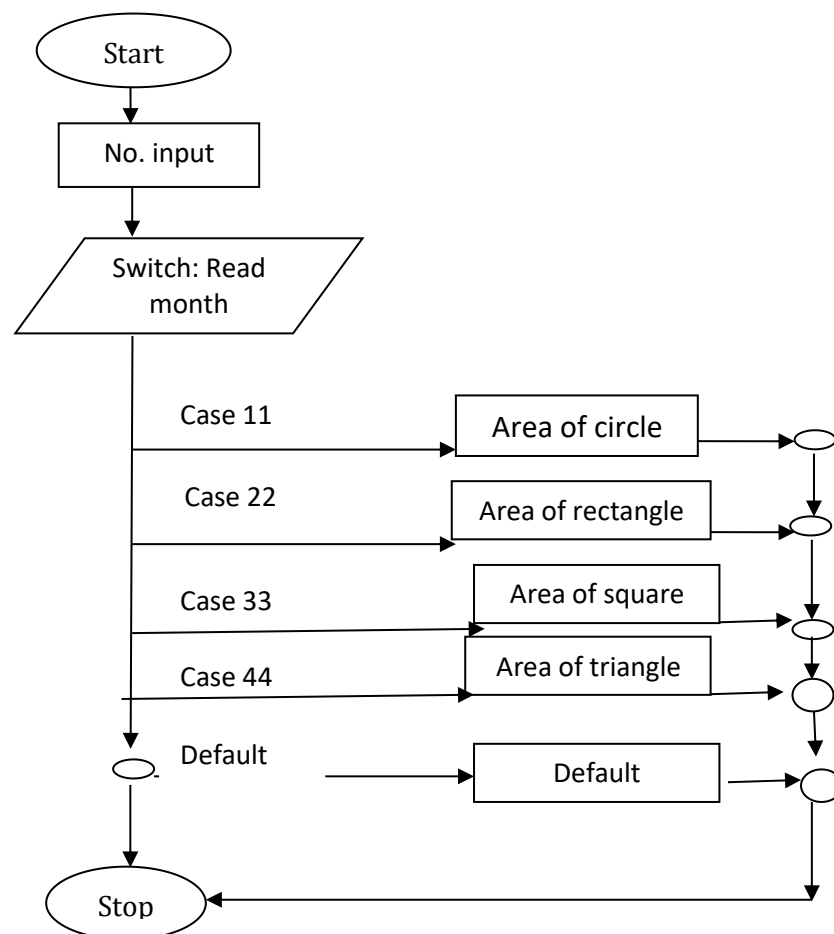
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>

#include<conio.h>

void main()

{

   int choise,r,a,aos,w,h,bh,vh,aor,aot;

   float aoc;

   printf("\n11. get area of circle");

   printf("\n22. get area of rectangle");

   printf("\n33. get area of square");

   printf("\n44. get area of triangle");

   printf("\n \n Enter your choise");

   scanf("%d",&choise);

   switch(choise){

      case 11:    printf("Enter the radius");

                  scanf("%d",&r);

                  aoc=3.14*r*r;

                  printf("area of circle is : %f",aoc);

                  break;

      case 22:   printf("Enter the height and width");

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

                   aor=h*w;

                   printf("Area of rectangle is : %d",aor);

                   break;

      case 33:   printf("Enter the length of side");
```

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

                aos=a*a;

                printf("Area of square is : %d",aos);

                break;

        case 44:    printf("Enter the base and vertical height");

                scanf("%d %d",&bh,&vh);

                aot=1/2*bh*vh;

                printf("Area of tringle is : %d",aos);

                break;

        default : printf("invalid choise");

    }

    getch();

}
```
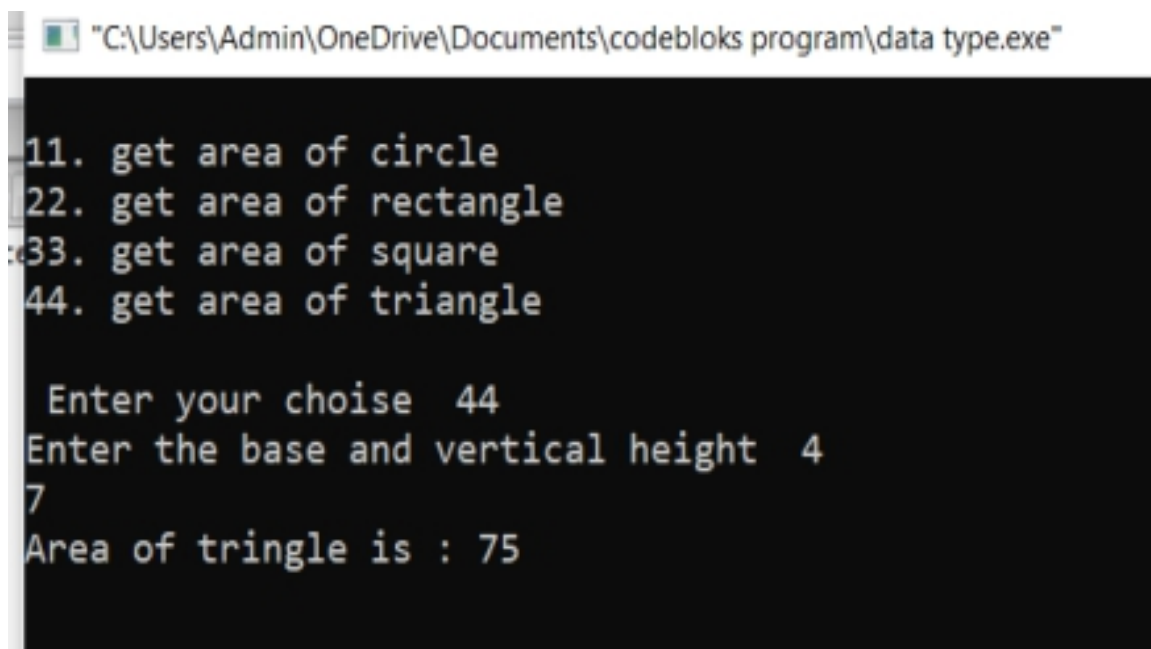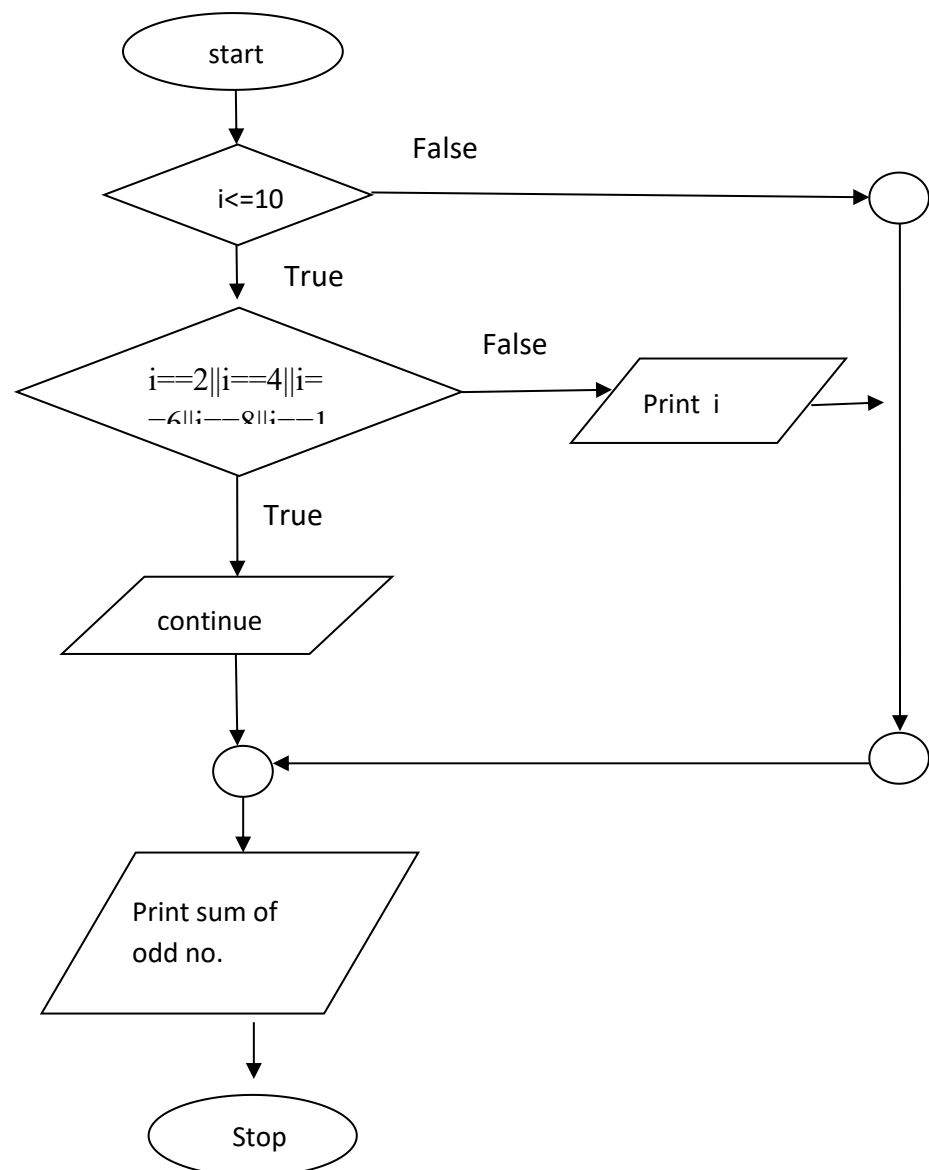
**OUTPUT-:**

# Q15.write a prigram in c to print sum of odd no between 0 to 10 using continue.

## Answer-:

**Algorithm-:**

1) Start
2) Declaration of variable
3) Check condition
4) Give answer according to condition
5) Stop

**Flowchart-:**

**Coding_for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{
  int i,sum=0;
  for(i=1;i<=10;i++)   {
     if(i==2||i==4||i==6||i==8||i==10)
        continue;
     else
      printf("\n %d",i);
        sum=sum+i;
  }
  printf("\nsum of odd number is %d",sum);
 getch();
}
```
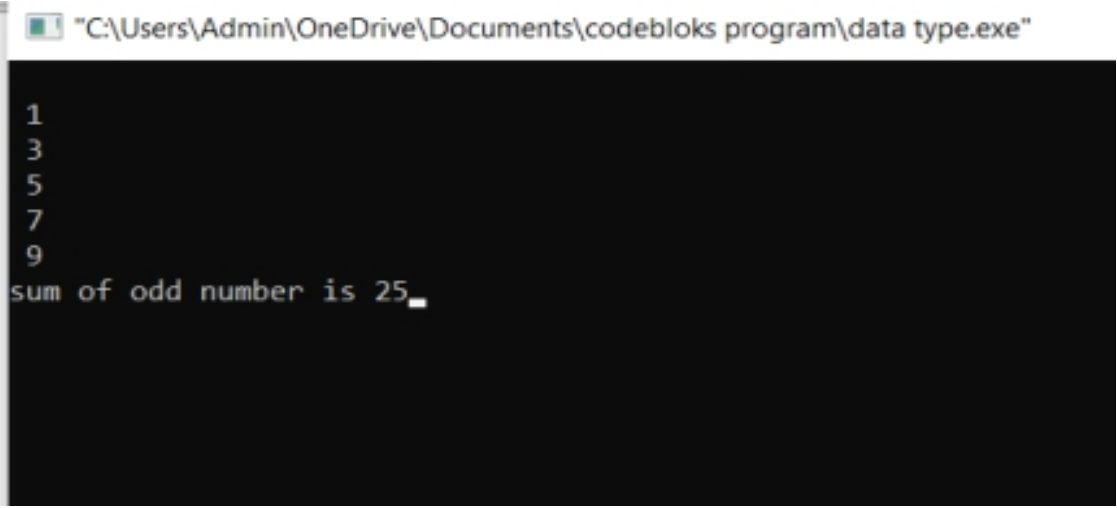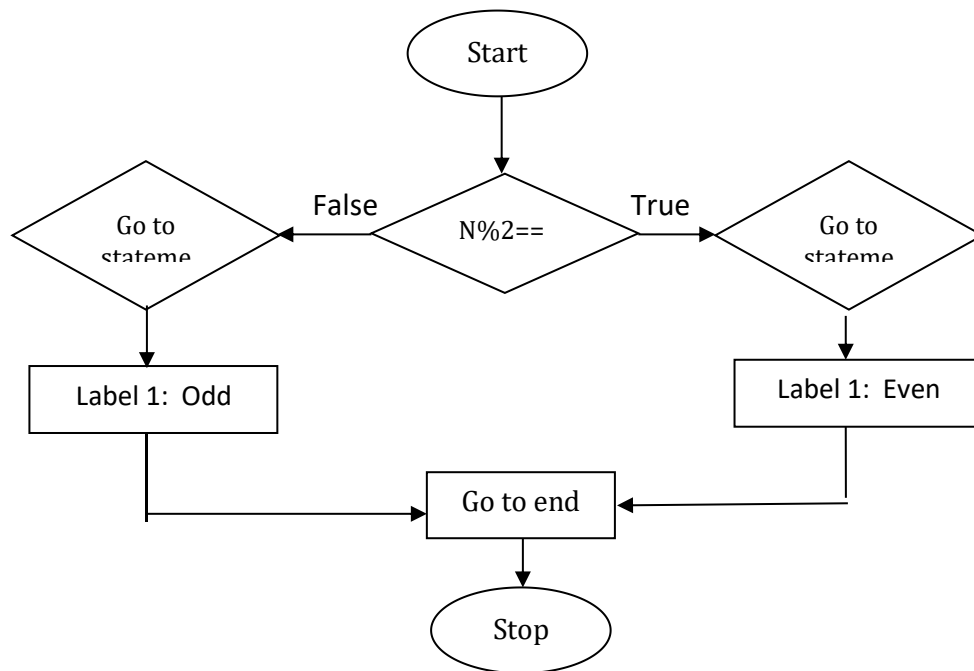
**OUTPUT-:**

# Q.16 write a program in c using goto statement.

**Answer-:**

**Algorithm-:**

1) Start

2) Declaration of variable

3) Enter number

4) Assign the value in variable

5) Check condition

6) Give answer according to condition

**7) Stop**

**Flowchart:-**

```
                          ┌─────────┐
                          │  Start  │
                          └─────────┘
                               │
                               ▼
        False              ◇─────────◇              True
   ◇─────────◇  ◄───────   │ N%2==   │   ───────►  ◇─────────◇
   │  Go to   │            ◇─────────◇             │  Go to   │
   │ stateme  │                                    │ stateme  │
   ◇─────────◇                                     ◇─────────◇
        │                                               │
        ▼                                               ▼
   ┌──────────────┐                            ┌──────────────┐
   │ Label 1: Odd │                            │ Label 1: Even│
   └──────────────┘                            └──────────────┘
        │                                               │
        │          ┌──────────────┐                     │
        └────────► │  Go to end   │ ◄───────────────────┘
                   └──────────────┘
                          │
                          ▼
                    ┌─────────┐
                    │  Stop   │
                    └─────────┘
```

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>
#include<conio.h>
void main()
{  int n;
   printf("enter a number");
   scanf("%d",&n);
  if(n%2==0)
    goto even;
   else
    goto odd;
     odd: printf("odd number");
          goto end;
      even: printf("even number");
            goto end;
     end:
    getch();
```
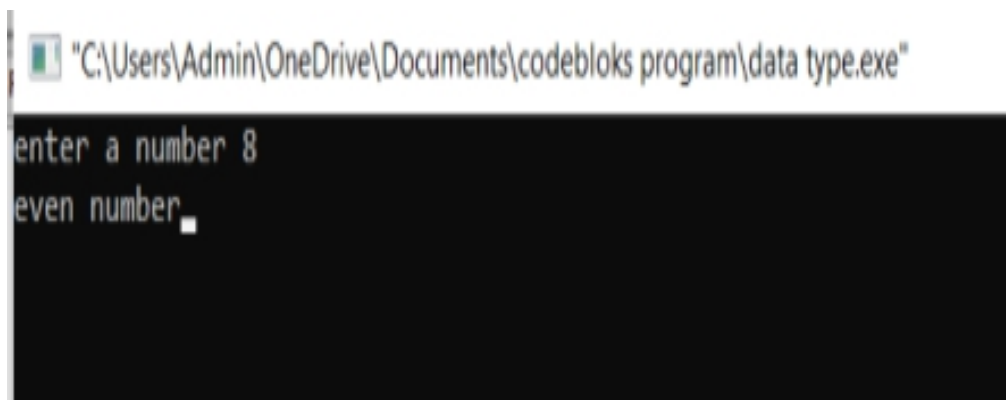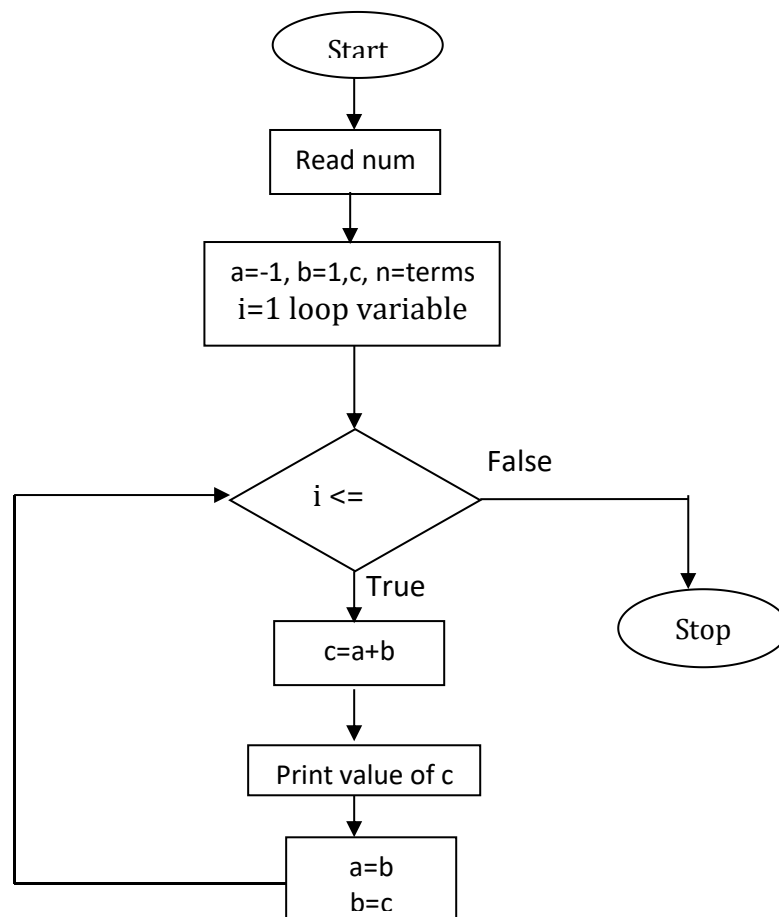
**OUTPUT-:**

# Q 17. Write a program to find Fibonacci series upto n terms

**Answer-:**

**Algorithm-:**

1) Start
2) Declaration of variable a=-1, b=1,c,n
3) Enter of terms (Fibonacci series)
4) Assign the value in variable
5) Check condition
6) Give answer according to condition
7) Stop

**Flowchart-:**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>

#include<conio.h>

void main()

{   int n,i,a=-1,b=1,c;

    printf("enter a number");

    scanf("%d",&n);

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

    {c=a+b;

     a=b;

     b=c;

     printf("%d",c);

    }
getch();

  }
```
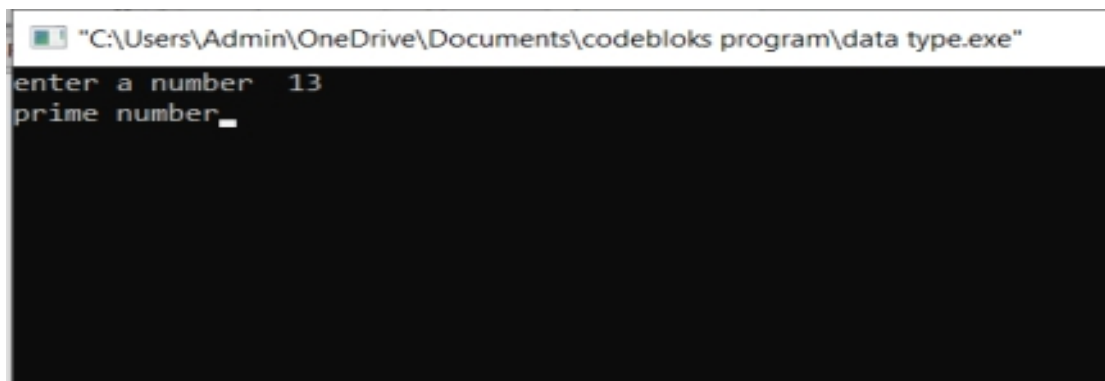
**OUTPUT-:**

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
enter a number 8
011235813_
```

# Q 18. Write a program in c to check whether the no is prime or not

**Answer-:**

**Algorithm-:**

1) Start
2) Declaration of variable
3) Enter the number to check prime or not
4) Assign the value in variable
5) Check condition
6) Give answer according to condition
7) Stop

**Flowchart-:**

```
                      ┌─────────┐
                      │  Start  │
                      └─────────┘
                           │
                           ▼
                  ┌──────────────────┐
                  │  i=2 loop variable│
                  │     n=term        │
                  └──────────────────┘
                           │
                           ▼
                        ╱i<n ?╲────── False ──────┐
          ┌──────────── ╲     ╱                    ▼
          │               │                      ╱ i ╲───── False ───┐
          │             True                     ╲   ╱                │
          │               ▼                      True                 │
       False         ╱n%i==0╲                     ▼                   │
          └───────── ╲      ╱                 ┌───────┐               │
                        │                     │ Prime │               │
                      True                    └───────┘               │
                        ▼                         │                   │
                  ┌───────────┐                   ▼                   │
                  │ Not prime │                ┌──────┐               │
                  └───────────┘                │ Stop │◄──────────────┘
                        │                       └──────┘
                        ▼                          ▲
                   ┌────────┐                      │
                   │ Break; │──────────────────────┘
                   └────────┘
```
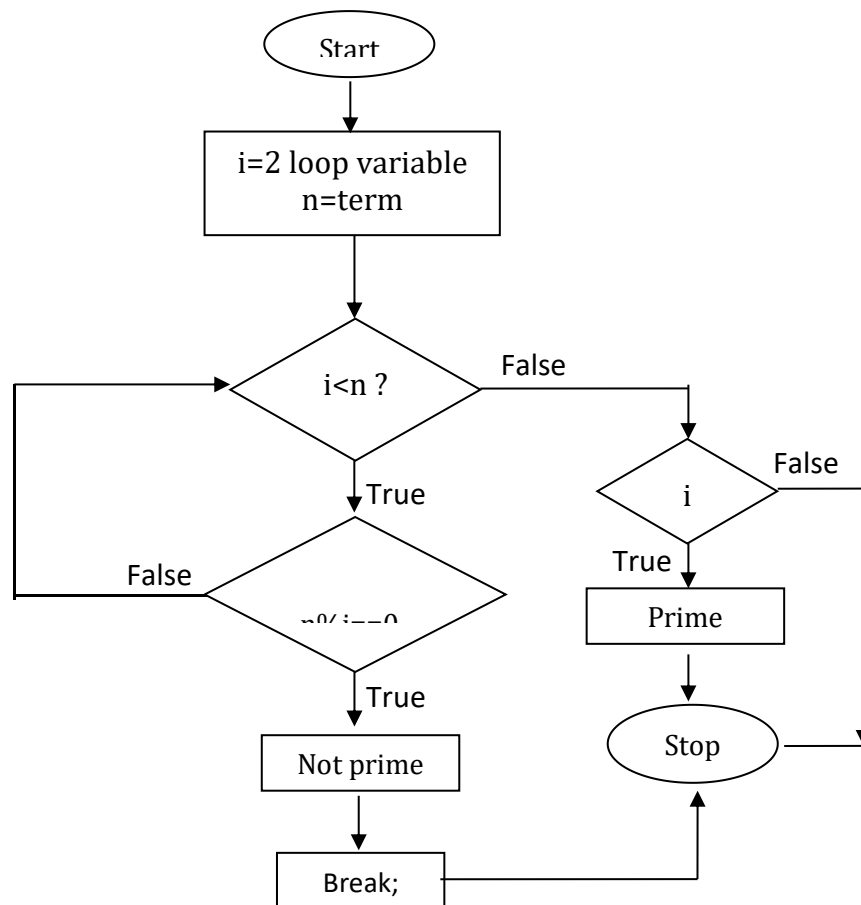
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{int n,i;
  printf("enter a number");
  scanf("%d",&n);
 for(i=2;i<=n-1;i++)
 {  if(n%i==0)
    {
     printf("not a prime number");
     break;
    }
 }
 if(i==n)
   printf("prime number");
 getch();
}
```
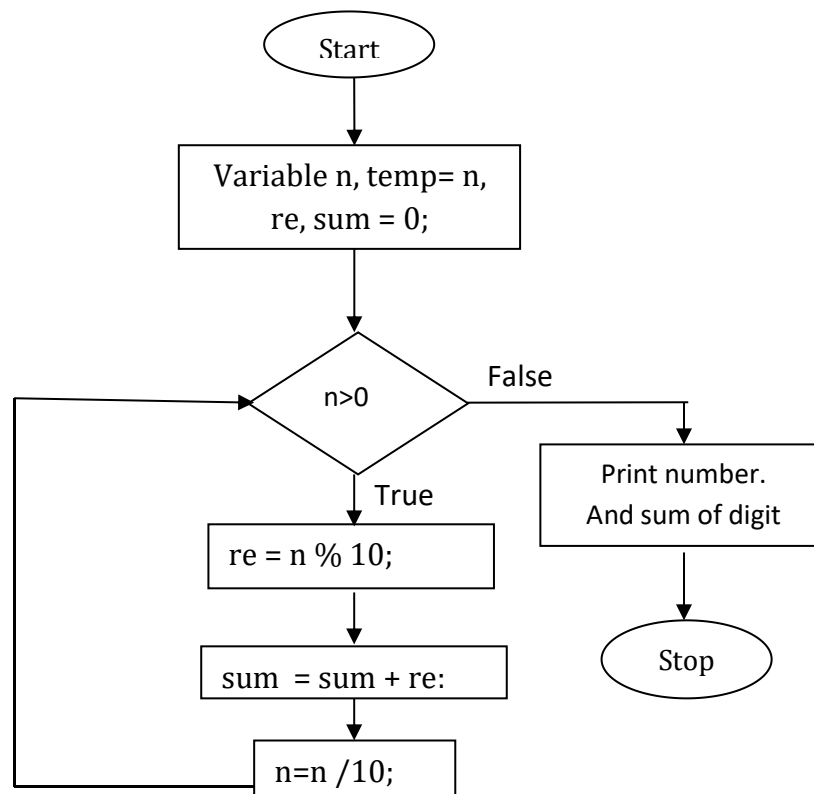
**OUTPUT-:**

# Q 19. Write a program in c to sum of digit.

## ANSWER-:

### Algorithm

1) Start
2) Declaration of variable
3) Enter the number
4) Input the value in variable
5) Check condition
6) Give answer according to condition
7) Stop

### Flowchart: -

**Coding for the program-:**

**Author-: Jeetu Sahu**
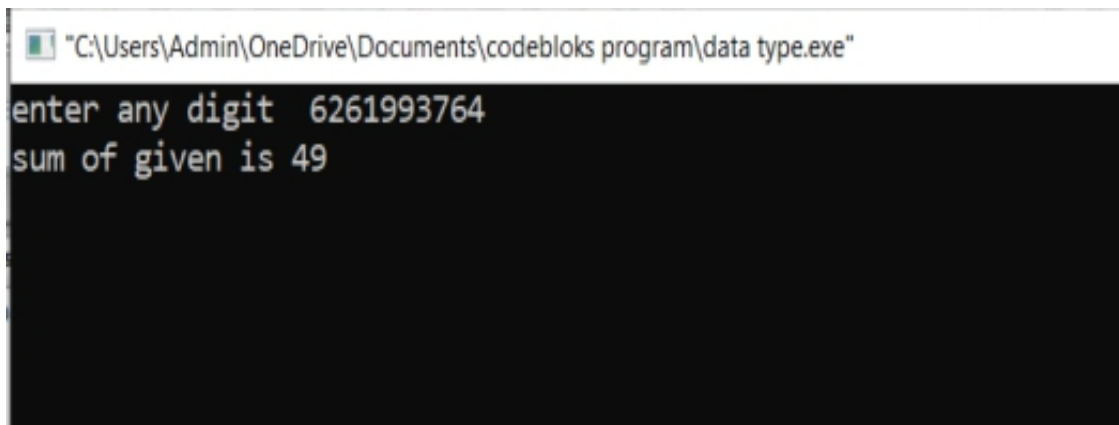
```c
#include<stdio.h>
#include<conio.h>
void main()
{
    int n,re,sum=0;
    printf("enter any digit");
    scanf("%d",&n);
    while(n>0)
    {
      re=n%10;
      sum=sum+re;
      n=n/10;
    }
    printf("sum of given is %d",sum);
    getch();
}
```

**OUTPUT-:**

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

enter any digit   6261993764
sum of given is 49
```

# Q 20. Write a program to convert decimal to binary.

## Answer-:

### Algorithm-:

1) Start
2) Declaration of variable
3) Enter the number to convert binary form
4) Input the value in variable
5) Check condition
6) Give answer according to condition using for loop
7) Stop

**Flowchart:-**

```
                    ┌─────────┐
                    │  Start  │
                    └─────────┘
                         │
                         ▼
            ┌──────────────────────────┐
            │ no,re,binary=0,i=1,       │
            │ var; variables            │
            └──────────────────────────┘
                         │
                         ▼
                      ◇ no> ◇ ──── False ────► ┌──────────────┐
                         │                      │ Print binary │
                       True                     └──────────────┘
                         │                            │
                         ▼                            ▼
            ┌──────────────────────┐            ┌─────────┐
            │ re=no%2              │            │  Stop   │
            │ no=no/2;             │            └─────────┘
            │ binary=binary+(re*i);│
            │ i=i*10;              │
            └──────────────────────┘
```
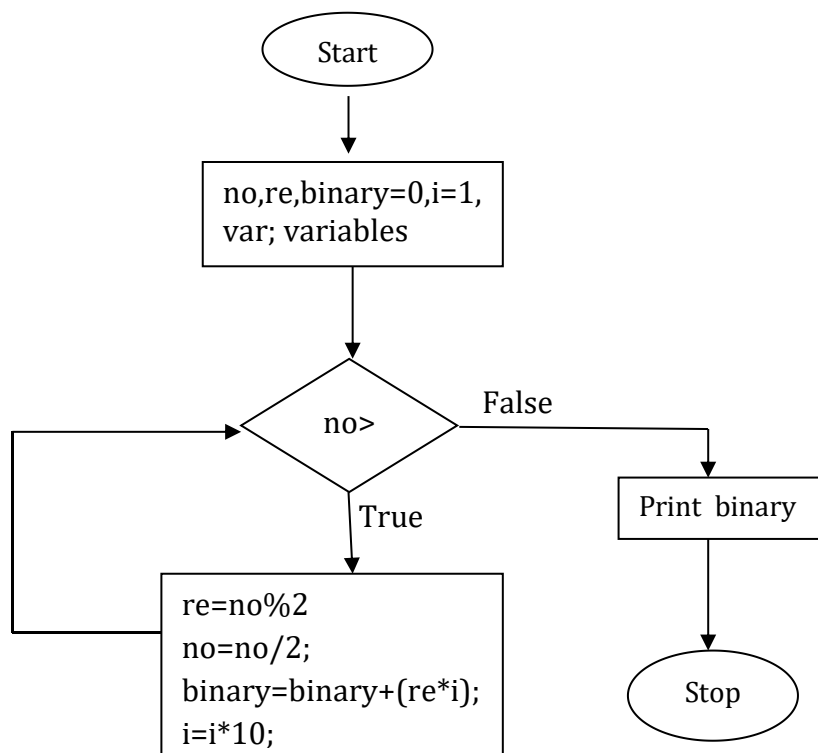
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{  int no,re,binary=0,i=1,var;
   printf("enter a number");
   scanf("%d",&no);
   var=no;
   while(no!=0)  {
    re=no%2;
     no=no/2;
     binary=binary+(re*i);
     i=i*10;
   }
   printf("binary equivalent of %d  is %d",var,binary);
   getch();
}
```

**OUTPUT-:**

"C:\Users\Admin\OneDrive\Documents\codebloks program\odd2.exe"

```
enter a number 56
binary equivalent of 56  is 111000
```

# Q 21. Write a program in c to check Armstrong no.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{  int n,r,s,x;
   printf("armstrong number are :\n");
   for(n=1;n<=1000;n++)
   {  x=n;
     s=0;
      while(x!=0) {
      r=x%10;
      s=s+r*r*r;
      x=x/10;
     }
     if(s==n)
      printf("%d\n",n);
   }
 }
```

**OUTPUT-:**



```
 "C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
armstrong number are :
1
153
370
371
407

Process returned 1 (0x1)    execution time : 0.049 s
Press any key to continue.
```

## Q 22. Write a c program to following pattern:

\*

\* \*

 \* \* \*

 \* \* \* \*

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**
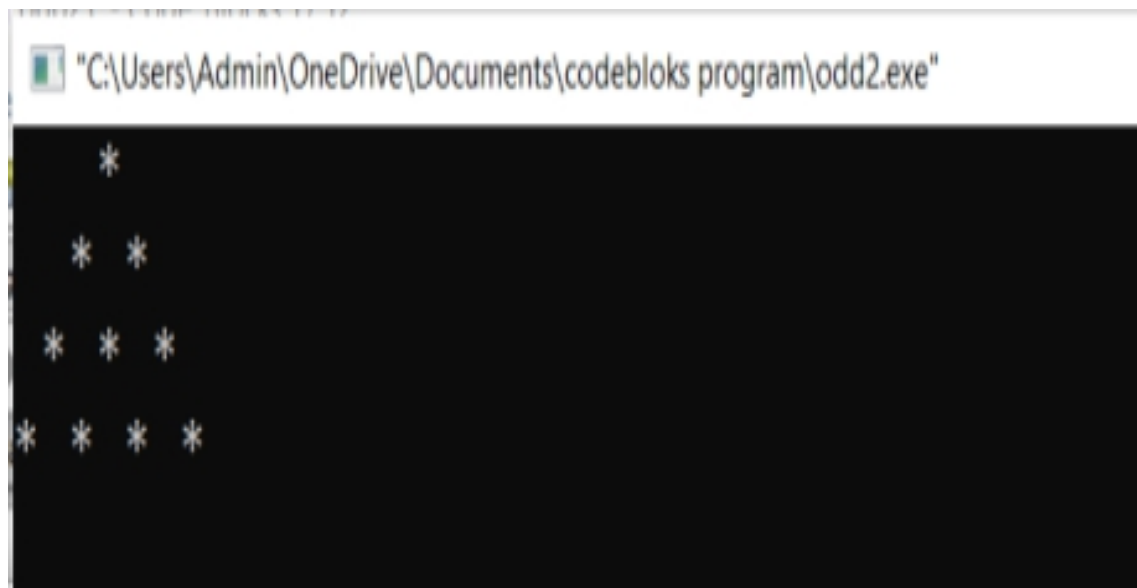
**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{ int i,j;
 for(i=1;i<=4;i++)
 {
    for(j=1;j<=4;j++)
    {
       if(j<=i)
         printf("*");
       else
         printf(" ");
    }
   printf("\n");
 }
 getch();
 }
```
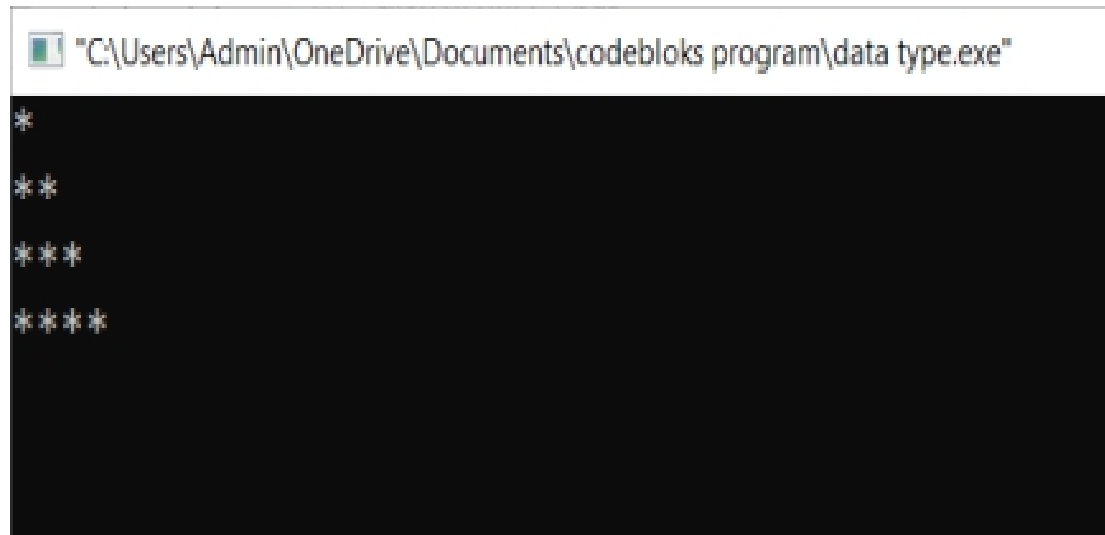
**OUTPUT-:**

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
*
**
***
****
```

**Q 23. Write a c program to following pattern:**

**1**

**1 2**

**1 2 3**

**1 2 3 4**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
void main()
{ int i,j,x;
 for(i=1;i<=4;i++)
 {    x=1;
  for(j=1;j<=4;j++)
  {   if(j<=i)
    { printf("%d",x);
      x++;
    }
    else
      printf(" ");
  }
   printf("\n");
 }
 getch();  }
```
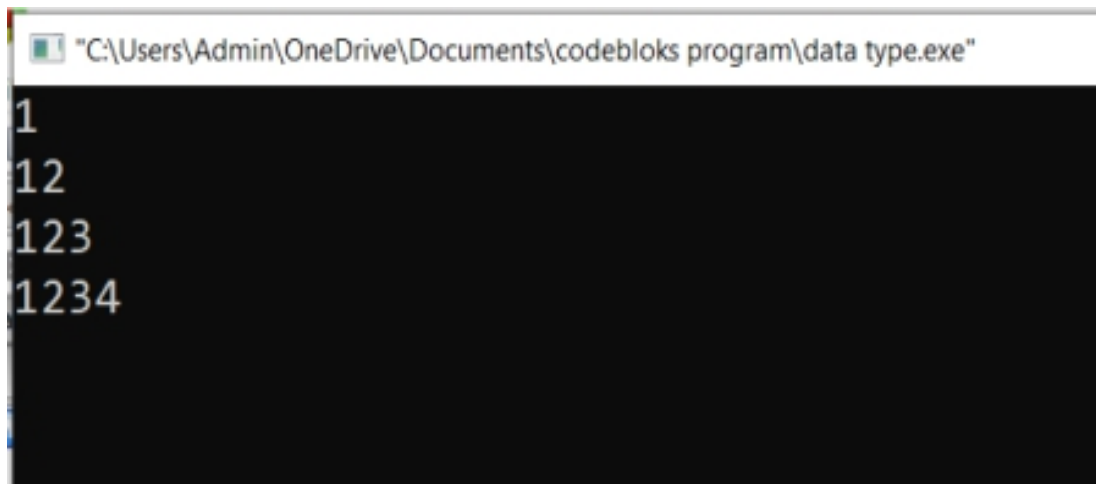
**OUTPUT-:**



"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
1
12
123
1234
```

## Q 24. Write a c program to following pattern:

 1

2 3

4 5 6

7 8 9 10

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>
#include<conio.h>
void main()
{ int i,j,x=1;
  for(i=1;i<=4;i++)
   {
for(j=1;j<=i;j++)
    {
     printf("%d",x);
     x++;
    }
     printf("\n");
   }
 getch();
 }
```
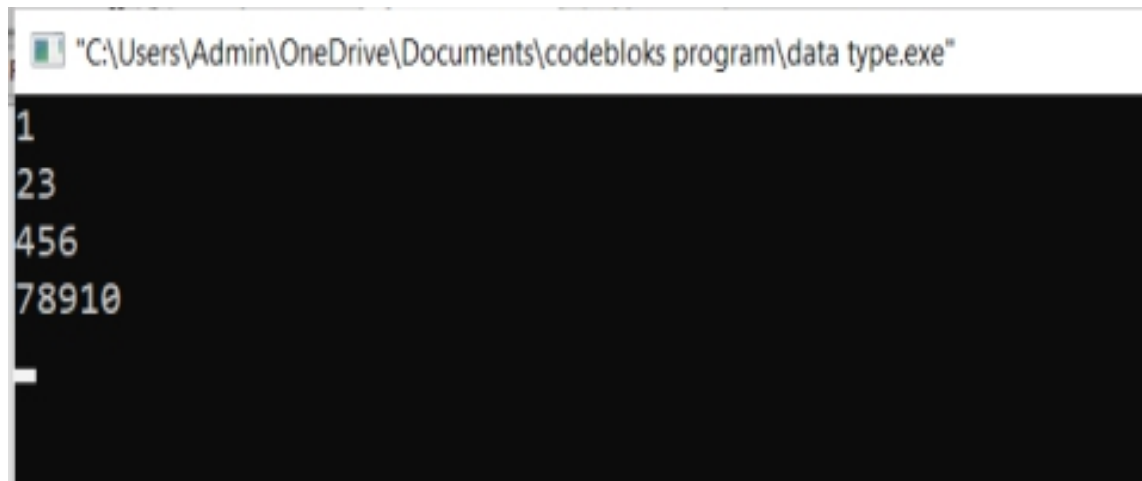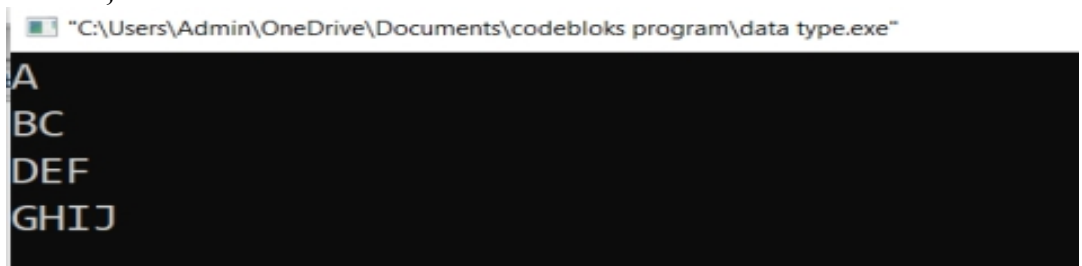
**OUTPUT-:**

## Q 25. Write a c program to following pattern:

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

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
void main()
{ int i,j,k;
 for(i=1;i<=4;i++)
  {
    k=0;
    for(j=1;j<=7;j++)
    {
      if(j>=(5-i)+k&&j<=3+i)
      {
        printf("*");
        k++;
        k++;
      }
      else
      {
```

```c
                    printf(" ");
                }
            }
        printf("\n");
    }
    getch();
}
```

## OUTPUT-:

**Q 26. Write a program to following pattern:**

A

A B

A B C

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{ int i,j;
char x='A';
  for(i=1;i<=3;i++)
  {   x='A';
    for(j=1;j<=3;j++)
    {    if(j<=i)
       {printf("%c",x);
         x++;
       }
      else
         printf(" ");
   }
    printf("\n");
   }
   getch();
   }
```
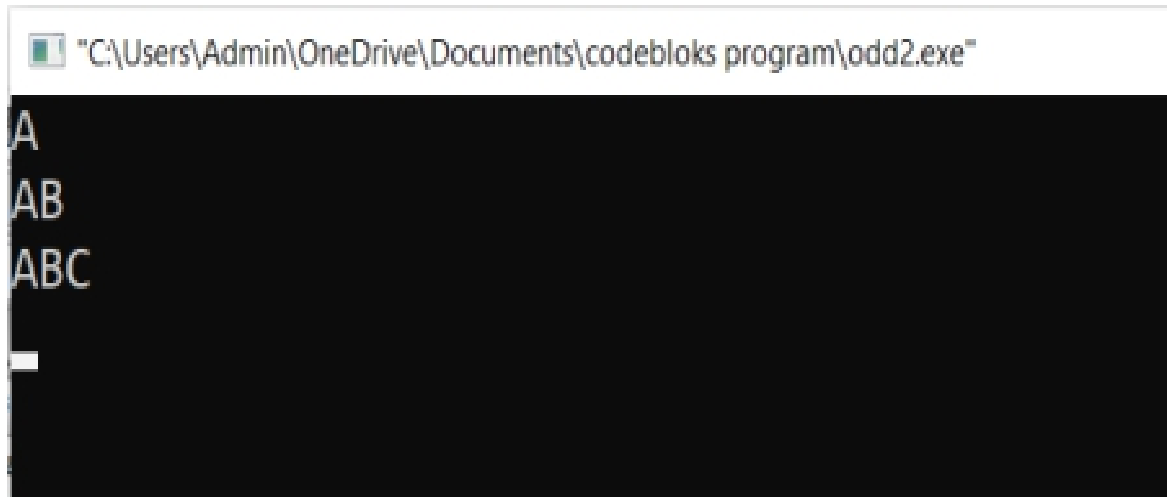
**OUTPUT-:**



"C:\Users\Admin\OneDrive\Documents\codebloks program\odd2.exe"

```
A
AB
ABC
```

## Q 27. Write a program to following pattern:

A

B C

D E F

G H I J

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main() {
 int i,j;
  char x='A';
  for(i=1;i<=4;i++) {
     for(j=1;j<=i;j++){
    printf("%c",x);
     x++;
   }
    printf("\n");
  }
  getch();
  }
```

**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
A
BC
DEF
GHIJ
```

**Q 28. Write a program in c to perform maths and character library function using switch case**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

---

**// program in c to perform maths library function**

```c
#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{   int n,x,y;

        while(1){

        printf("\n\t\n\tChoose these function to perform :  ");

        printf("\n\t1. Sqrt function ");

        printf("\n\t2. Power function ");

        printf("\n\t3. Ceil function ");

        printf("\n\t4. Floor function ");

        printf("\n\t5. exit ");

        scanf("%d",&n);

        switch(n){

      case 1:    printf("\n\t1. Sqrt function ");

          printf("\n\tEnter number : ");

          scanf("%d",&x);

          y=sqrt(x);

          printf("\n\tAnswer is : %d",y);

          break;
```

```c
case 2:    printf("\n\tPower function ");

           printf("\n\tEnter number : ");

           scanf("%d",&x);

           y=pow(x,2);

           printf("\n\tAnswer is : %d",y);

           break;


case 3:    printf("\n\tCeil function ");

           printf("\n\tEnter number : ");

           scanf("%d",&x);

           y=ceil(x);

           printf("\n\tAnswer is : %d",y);

           break;

case 4:    printf("\n\tFloor function ");

           printf("\n\tEnter number : ");

           scanf("%d",&x);

           y=floor(x);

           printf("\n\tAnswer is : %d",y);

           break;

case 5:    printf("\n\tSucessfully exited!! \n");

           exit(0);

default:   printf("\n\tInvailed option ");

   }

  }

  getch();

}
```

## OUTPUT-:



"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
        Choose these function to perform :
        1. Sqrt function
        2. Power function
        3. Ceil function
        4. Floor function
        5. exit 2

        Power function
        Enter number : 6

        Answer is : 36

        Choose these function to perform :
        1. Sqrt function
        2. Power function
        3. Ceil function
        4. Floor function
        5. exit 5

        Sucessfully exited!!

Process returned 0 (0x0)    execution time : 21.393 s
Press any key to continue.
```

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

---

**//Program character library function**

```c
#include<stdio.h>

#include<conio.h>

#include<ctype.h>

void main()

{

        char ch;

        printf("\nCtype header file ");


        printf("\nEnter any character :");

        scanf("%c", &ch);

if ( isalpha(ch))

        printf ( "\nEntered character is alphabetic" ) ;

else

         printf ( "\nEntered character is not alphabetic" ) ;

if ( isdigit ( ch ) )

        printf ( "\nEntered character is digit" ) ;

else

         printf ( "\nEntered character is not digit" ) ;


  if ( isalnum ( ch ) )

        printf ( "\nEntered character is alphanumeric" ) ;

else

         printf ( "\nEntered character is not alphanumeric" ) ;
```

```c
        if ( isspace ( ch ) )

        printf ( "\nEntered character is space" ) ;

    else

            printf ( "\nEntered character is not space" ) ;

     if(isalpha(ch))

                printf ( "\nEntered character is converted into " \

                "lower character : %c\n",tolower ( ch ) ) ;

    else

            printf("Entered character is not an alphabetic");

      if(isalpha(ch))

                printf ( "\nEntered character is converted into " \

                                "upper character : %c\n",toupper ( ch ) ) ;

    else

            printf("Entered character is not an alphabetic");

            getch();

    }
```
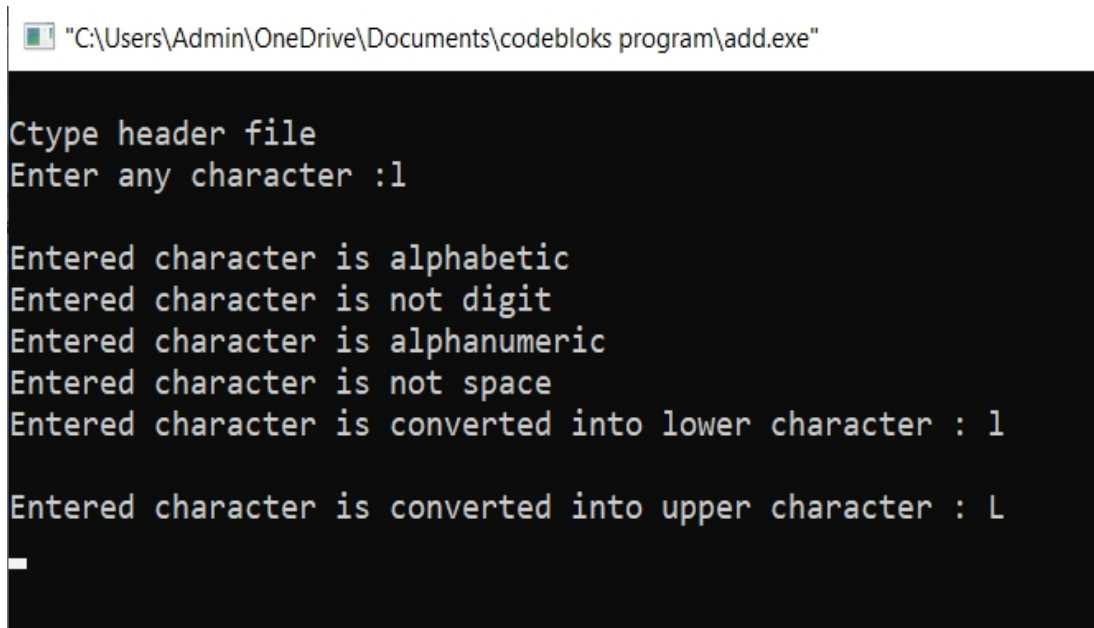
## OUTPUT-:

**29. Write a program to demonstrate the command line argument.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**
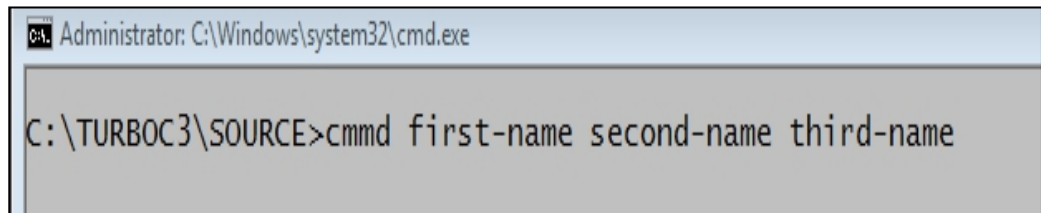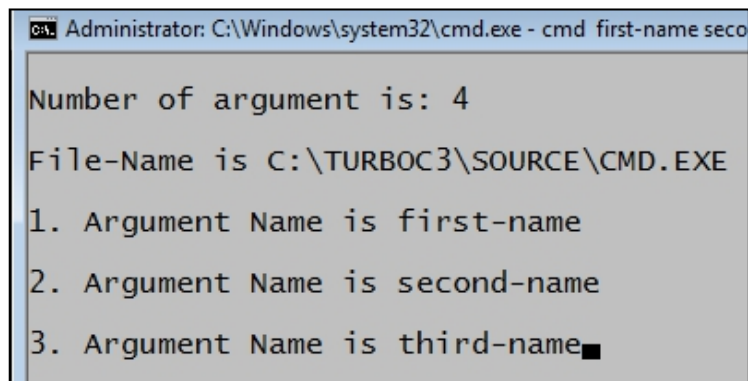
```c
#include<stdio.h>

#include<conio.h>

void main(int arg, char *argv[])  {

int i;

clrscr();

printf("Number of argument is: %d",arg);

for(i=0;i<arg;i++)

{ If(i<=0)

  printf("\nFile-name is %s", argv[i]);

  else

    printf("\nArgument Name is %s",i+1,argv[i]);

}

getch();

}
```

**OUTPUT-:**

## Q 30. Write a program to swapping of two number using call by value and call by reference.

**Answer-:**

<u>:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe</u>

<u>Coding for the program-:</u>

<u>Author-: Jeetu Sahu</u>

### 1.Using Call by value-:

```c
#include<stdio.h>
#include<conio.h>
void swap(int x,int y);
void main()
{ int a=10,b=20;
  printf("without swaping a= %d and b= %d \n",a,b);
   swap(a,b);
   getch();
}
void swap(int x,int y)
{ int t;
   t=x;
   x=y;
   y=t;
  printf("after swaping a= %d and b= %d ",x,y);
}
```
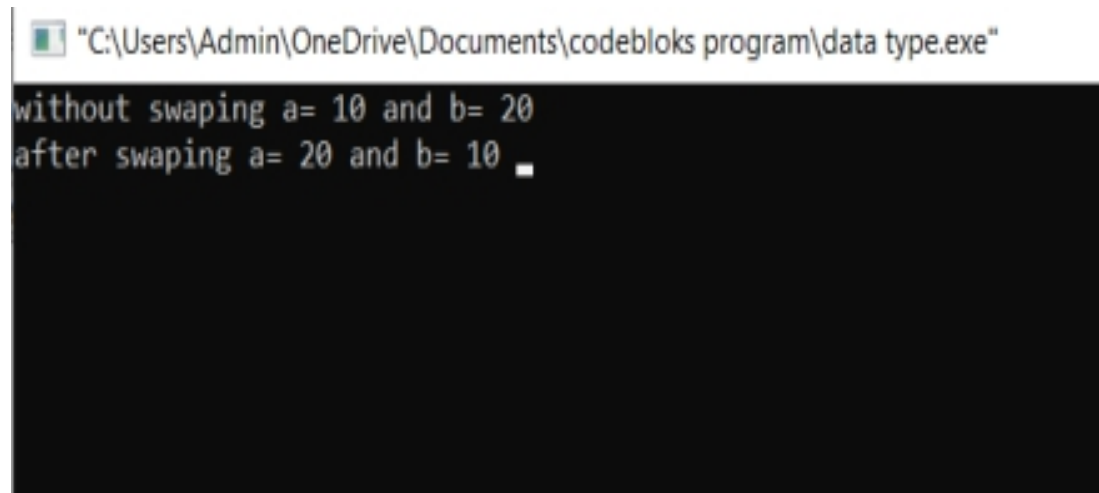
**OUTPUT-:**



**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

---

## 2.Ussing Call By Reference-:

```c
#include<stdio.h>
#include<conio.h>
void swap(int *x, int *y);
void main()
{ int a=10,b=20;
 printf("without swaping a= %d and b= %d \n",a,b);
  swap(&a,&b);
 printf("after swaping a= %d and b= %d ",a,b);
  getch();
}
void swap(int *x,int *y)
{
   int t;
   t=*x;
```

```
        *x=*y;

        *y=t;

    }
```

**OUTPUT-:**

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

without swaping a= 10 and b= 20
after swaping a= 20 and b= 10
```

# Q 31. Write a program to differentiate local and global variable.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**
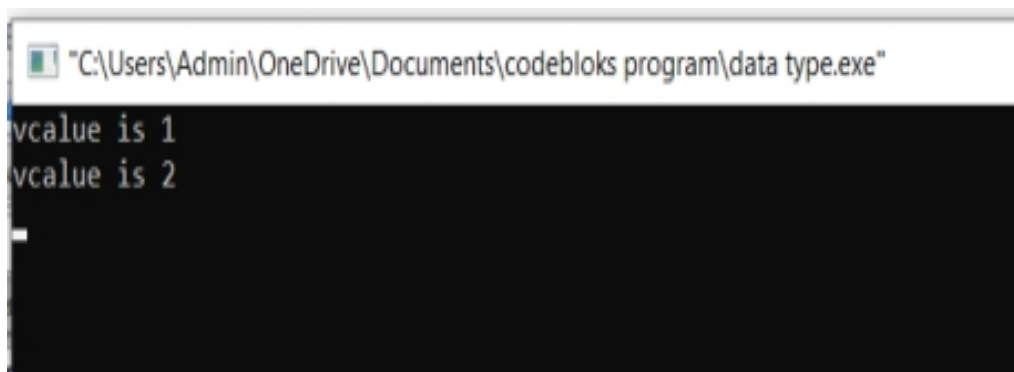
---

```c
#include<stdio.h>
#include<conio.h>
int z;     //globle variable
int add(int ,int);
void main()
{ int a,b;   //local variables
 printf("enter two number");
 scanf("%d%d",&a,&b);
 z=add(a,b);
 printf("sum is %d",z);
 getch();
 }
 int add(int x, int y)
 { z=x+y;
  return(z);
 }
```
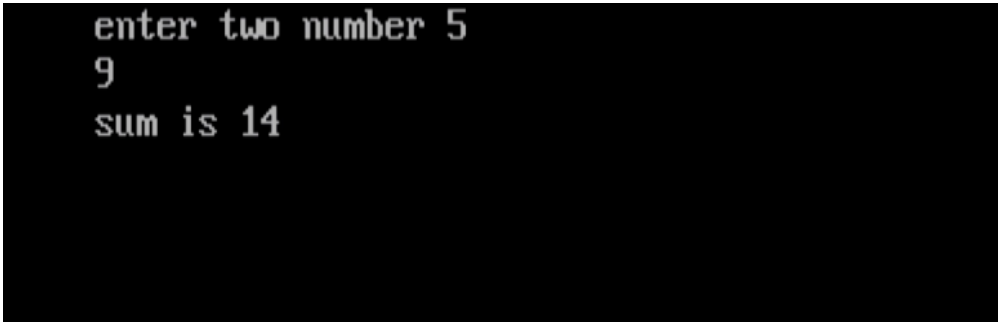
**OUTPUT-:**

```
enter two number 5
9
sum is 14
```

# Q 32. Write a c program to show the use of static variable.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void f1(void);
void main()
{
 f1();
 f1();
 getch();
}
void f1()
{
   static int x;
   x++;
   printf("vcalue is %d\n",x);
}
```
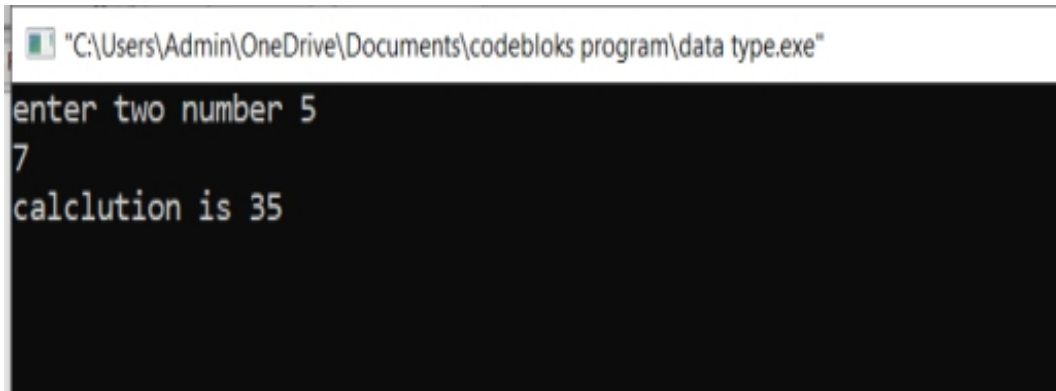
**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

vcalue is 1
vcalue is 2
```

# Q 33. calculate the volume through function.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void f1(int ,int);
void main()
{ int a,b;
  printf("enter two number");
  scanf("%d%d",&a,&b);
  f1(a,b);
 getch();
}
void f1(int x,int y)
{ int z;
  z=x*y;
  printf("calclution is %d",z);
}
```

**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

enter two number 5
7
calclution is 35
```

## Q 34. write a program to find area of circle and area of rectangle using the function return type.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void f1(int);
void f2(int a,int b );
void main()
{ int l,ch;
  float r;
  printf("enter radius");
  scanf("%f",&r);
  f1(r);
  printf("\nenter height and width");
  scanf("%d%d",&l,&ch);
  f2(l,ch);
 getch();
}
void f1(int x )
{
   float aoc;
   aoc=3.14*x*x;
   printf("area of circle is %f\n",aoc);
}
```
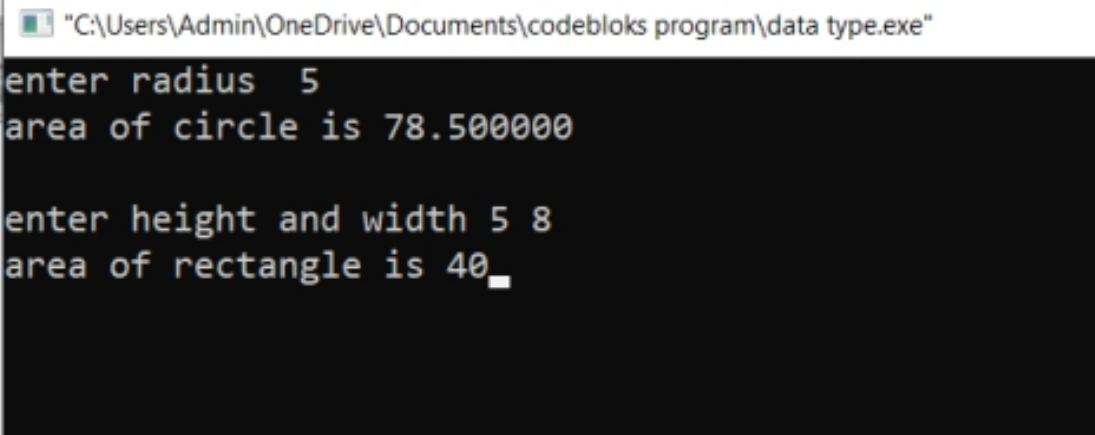
```
void f2(int a,int b )
{
    int c;;
    c=a*b;
    printf("area of rectangle is %d",c);
}
```

**OUTPUT-:**

```
 "C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
enter radius  5
area of circle is 78.500000

enter height and width 5 8
area of rectangle is 40
```

## Q 35. Write a program to add two no by using 4th category of function(Return type with argument)

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
int add(int ,int);
void main()
{ int a, b,c;
  printf("Enter two number");
  scanf("%d%d",&a,&b);
  c=add(a,b);
  printf("sum is : %d",c);
  getch();
}
int add(int x,int y)
{   int z;
   z=x+y;
   return(z);
}
```
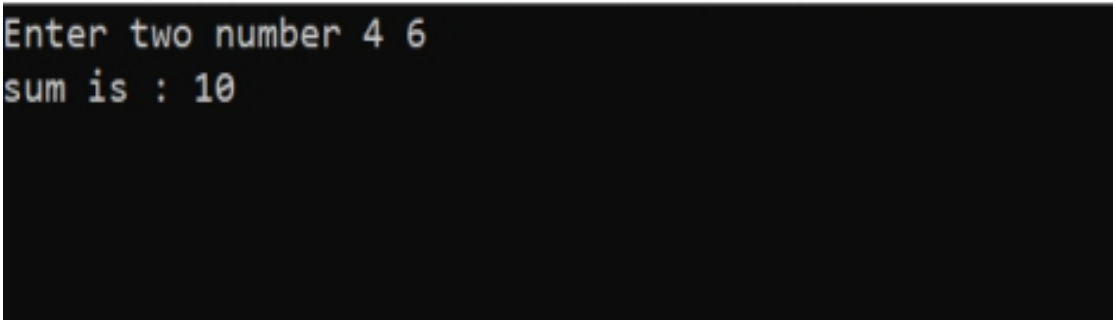
**OUTPUT-:** "C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
Enter two number 4 6
sum is : 10
```

## Q 36. Write a program in C to read 10 numbers from keyboard and find their sum and average.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding  for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{ int i,sum=0;
 float avg;
 printf("Enter 10 number");
 for(i=1;i<=10;i++)
 {  scanf("%d",&i);
    sum=sum+i;
 }
 avg=sum/10.0;
 printf("sum is : %d\n",sum);
 printf("\naverage is : %f",avg);
 getch();
}
```

**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
Enter 10 number   1
2
3
4
5
6
7
8
9
10
sum is : 55

average is : 5.500000
```

## Q 37. Write a program to find factorial of a number using recursion.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
int fact(int );
void main()
{ int x,z;
  printf("enter a number");
  scanf("%d",&x);
  z=fact(x);
  printf("factorial is %d",z);
  getch();
}
int fact(int n)
{  int ft=1;
    if(n==1)
    return(n);
    ft=n*fact(n-1);
    return(ft);
}
```

**OUTPUT-:**

"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
enter a number  5
factorial is 120
```

# Q 38. write a c program to calculate power using recursion

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
int recu(int ,int );
void main()
{    int base, a;
     int result;
     clrscr();
     printf("\tEnter the base number : ");
     scanf("%d", &base);
     printf("\n\tEnter power number :");
     scanf("%d", &a);
     result= recu( base, a);
     printf("\n\tGiven number is %d and power is %d and result
is : %d",base, a, result);
     getch();

}

int recu(int base,int a)
{
   if(a!=0)
   { base = base * recu (base ,a-1);
     return(base); }
     else
     return 1;

}
```
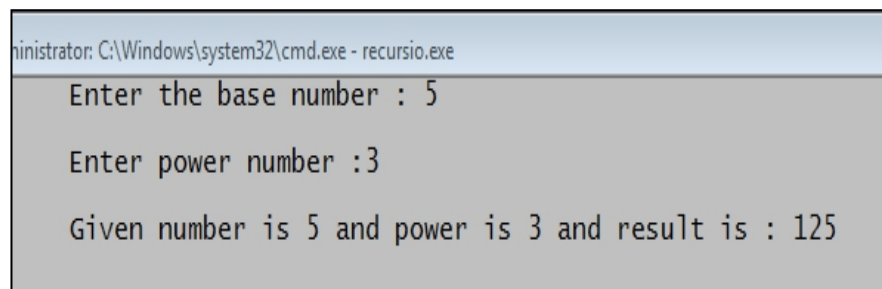
**OUTPUT-:**



```
ministrator: C:\Windows\system32\cmd.exe - recursio.exe
   Enter the base number : 5

   Enter power number :3

   Given number is 5 and power is 3 and result is : 125
```

## Q 39. Write a program to take input of 10 element,  store and display it using  one Dimensional array .

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
void main()
{   int a[10],i;
    printf("enter 10 number ");
    for(i=0;i<10;i++) {
        scanf("%d",&a[i]);
    }
    printf("your entered number is :");
    for(i=0;i<10;i++){
    printf("\n%d",a[i]); }
    getch();
}
```
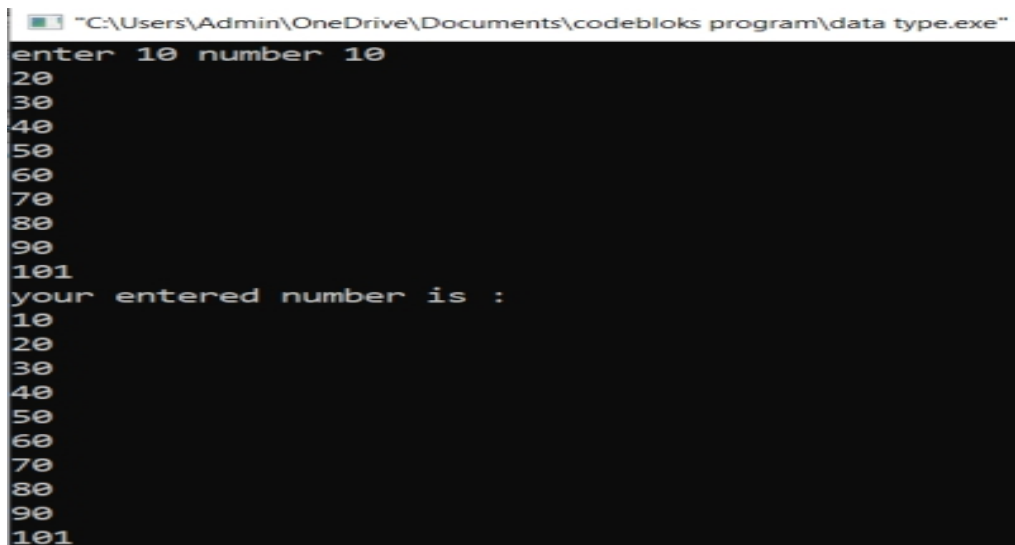
**OUTPUT-:**

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
enter 10 number 10
20
30
40
50
60
70
80
90
101
your entered number is :
10
20
30
40
50
60
70
80
90
101
```

## Q 40. Write a program to find sum of 10 natural no using 1-D array.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>
#include<conio.h>
void main()
{
   int a[10]={1,2,3,4,5,6,7,8,9,10};
   int i,sum=0;
   for(i=0;i<10;i++)
   {
      sum=sum+a[i];
   }
   printf("sum of 10 natural number is : %d",sum);
   getch();
}
```
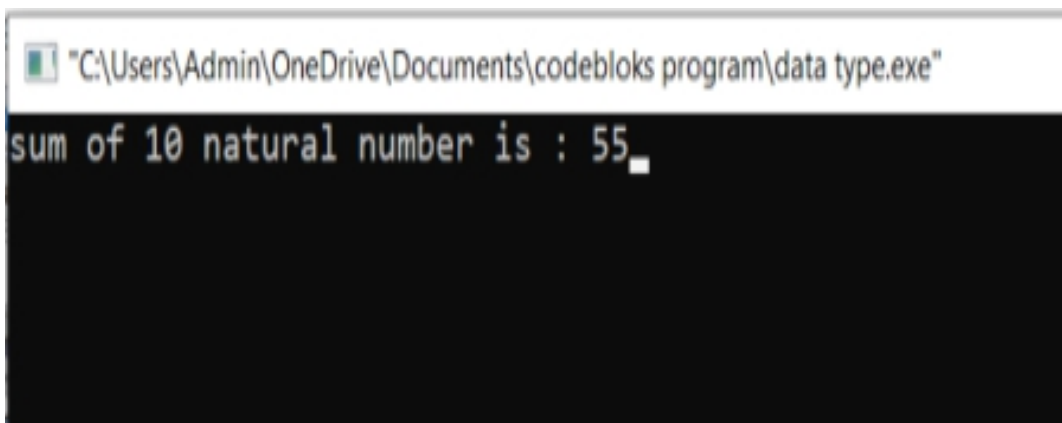
**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

sum of 10 natural number is : 55
```

# Q 41 .Write a program in c to search an element from an array by linear search method.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

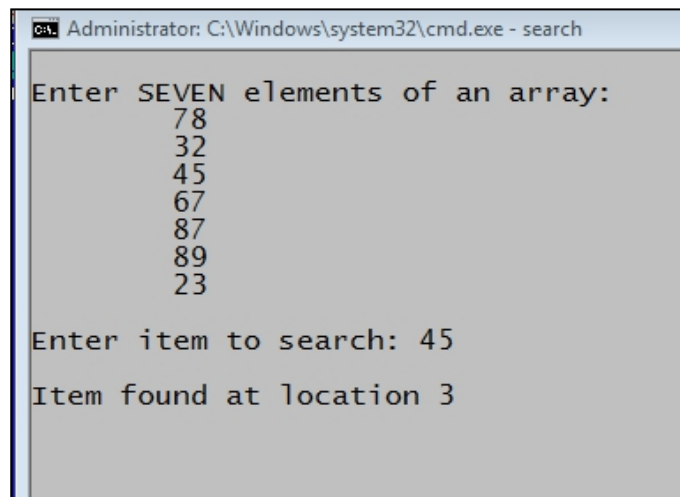---

```c
#include <stdio.h>
void main()
{
  int a[10], i, item;
  clrscr();
  printf("\nEnter SEVEN elements of an array:\n");
  for (i=0; i<=6; i++)
 { printf("\t");
        scanf("%d", &a[i]);}
  printf("\nEnter item to search: ");
  scanf("%d", &item);
  for (i=0; i<=9; i++)
    if (item == a[i])
    {
      printf("\nItem found at location %d", i+1);
      break;
    }
  if (i > 9)
    printf("\nItem does not exist.");
  getch();
}
```

**OUTPUT-:**

:-

**Q 42. Write a program in c to sort element of array in ascending order.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{  int a[10]={20,40,30,10,50,80,100,90,60,70};
  int round,i,t;
  printf(" befor shorting :\n");
  for(i=0;i<10;i++)
   {
      printf(" %d\n",a[i]);
   }
  for(round=0;round<5;round++)
  {
   for(i=0;i<=10-round;i++)
   {
     if(a[i]>a[i+1]){
        t=a[i];
        a[i]=a[i+1];
        a[i+1]=t;
      }
    }
  }
```
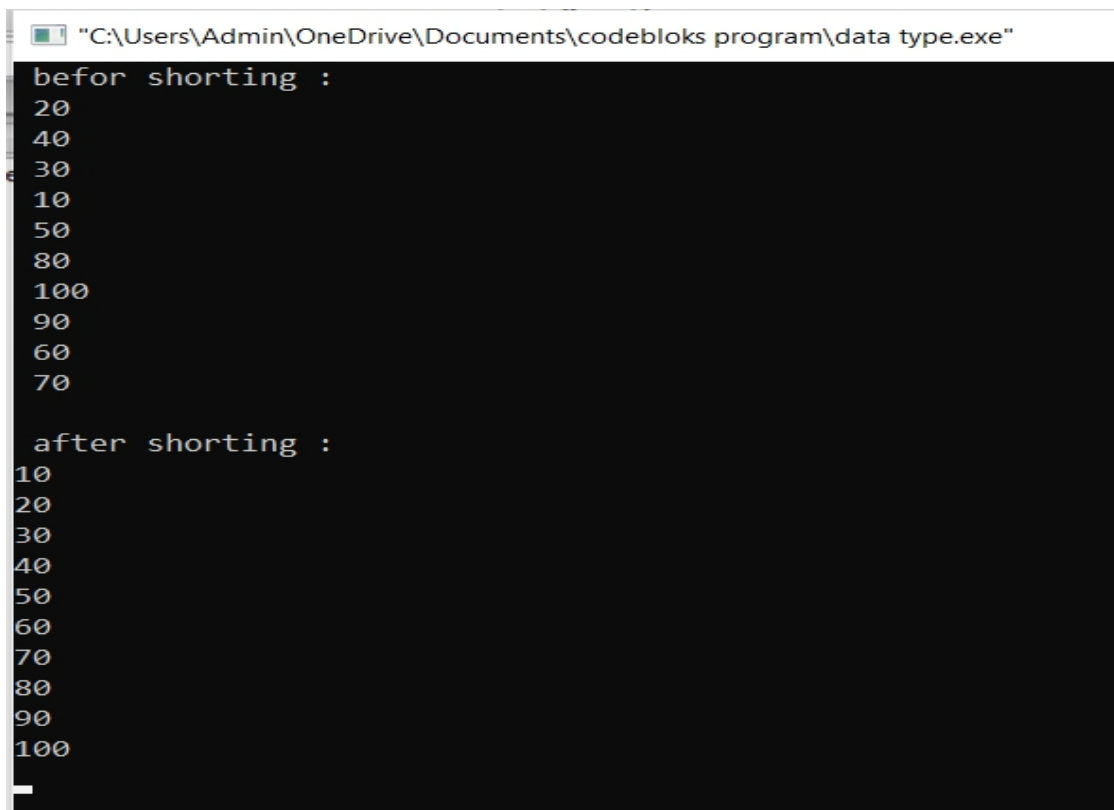
```
        printf("\n after shorting :\n");

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

     {

        printf("%d\n",a[i]);

     }

     getch();

   }
```

*OUTPUT-:*

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
befor shorting :
20
40
30
10
50
80
100
90
60
70

after shorting :
10
20
30
40
50
60
70
80
90
100
```

## Q 43. Write a program in c to perform addition of two matrix.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

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

{
//Declaring variables

int a[3][3], b[3][3], c[3][3], i, j;
clrscr();
printf("Enter all elements of first matrix : \n");

  for(i=0;i<3;i++)
 {
            for(j=0;j<3;j++)
            {
            scanf("\t%d",&a[i][j]);
            }
        }

    printf("Enter all elements of second matrix : \n");

    for(i=0;i<3;i++)
        {       for(j=0;j<3;j++)
            {
            scanf("\t%d",&b[i][j]);
            }
        }
            printf("Sum of matrices are: \n");

        for(i=0;i<3;i++)
          {
            for(j=0;j<3;j++)
            {
                c[i][j]=a[i][j]+b[i][j];
                printf("\t%d",c[i][j]);
            }
            printf("\n");
        }
```
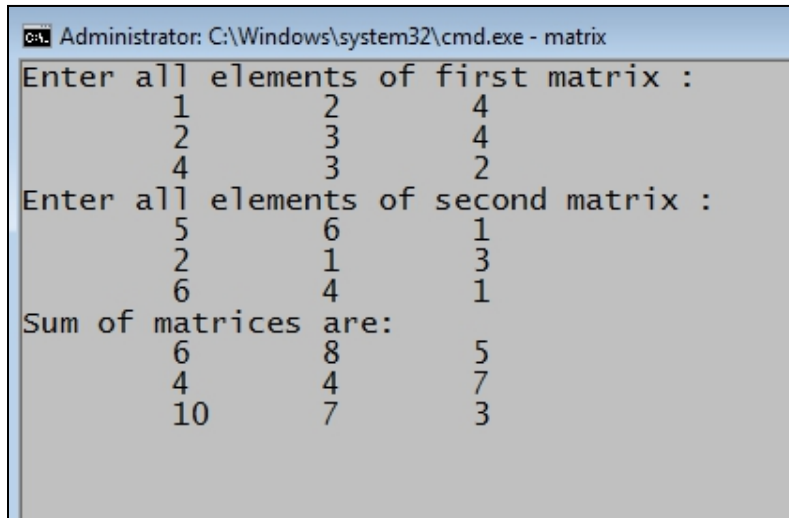
```
getch();
}
```

```
Administrator: C:\Windows\system32\cmd.exe - matrix
Enter all elements of first matrix :
        1           2           4
        2           3           4
        4           3           2
Enter all elements of second matrix :
        5           6           1
        2           1           3
        6           4           1
Sum of matrices are:
        6           8           5
        4           4           7
        10          7           3
```

## Q 44. Write a program in c to perform multiplication of two matrix

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>

void main()
{
  int a[3][3],b[3][3],c[3][3],i,j,k,sum;
  clrscr();

  printf("\nEnter the matrix elements of A\n");
  for(i=0;i<3;i++)
  {
  for(j=0;j<3;j++)
  {
    scanf("%d",&a[i][j]);
  }
  printf("\n");
  }
  printf("\nEnter the matrix elements of B\n");
  for(i=0;i<3;i++)
  {
  for(j=0;j<3;j++)
  {
    scanf("%d",&b[i][j]);
  }
  printf("\n");
  }
  for(i=0;i<3;i++)
  {
  for(j=0;j<3;j++)
  {
    sum=0;
    for(k=0;k<3;k++)
    {
        sum=sum+a[i][k]*b[k][j];
```

```
        }
       c[i][j]=sum;
     }
    }
    printf("\nProduct of two matrix is:\n\n");
    for(i=0;i<3;i++)
    {
    for(j=0;j<3;j++)
    {
       printf(" \t%d",c[i][j]);

    }
    printf("\n");
    }

    getch();
 }
```
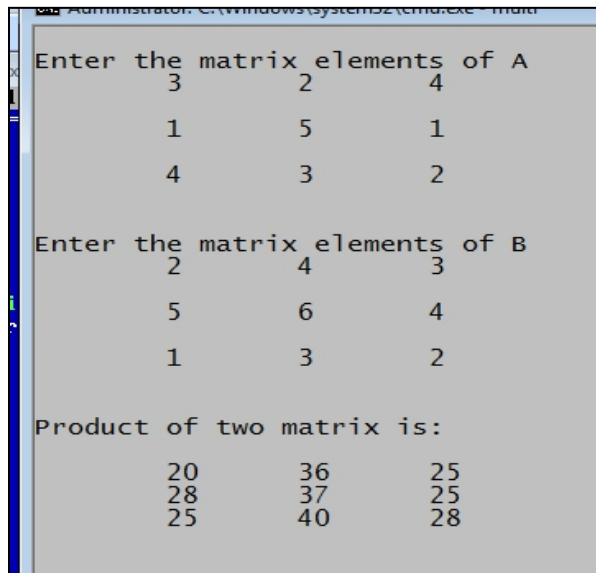
Output:-

# Q 45. Write a program to find Transpose of a matrix.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{ int a[6],b[3],i;
   printf("entetr 6 number for matrix :");
   for(i=0;i<6;i++)
   { scanf("%d",&a[i]);
   }
   printf("\ntransport matrix :\n");
   for(i=0;i<6;i++)
   { b[i]=a[i];
   } printf("after transport is :\n");
   for(i=0;i<6;i++)
   { printf("%d\n",b[i]);
   }
   getch(); }
```
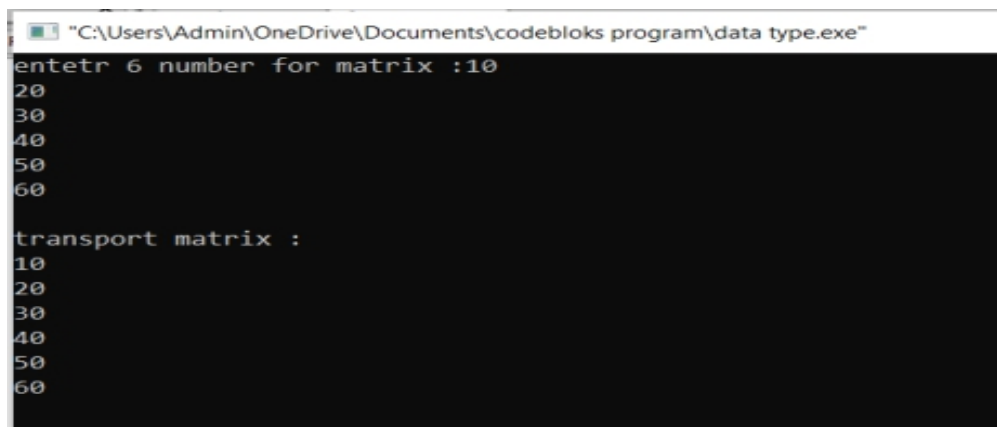
**OUTPUT-:**

## Q 46. Write a program to print String and findout their length without using library function.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
int length(char *s);
void main()
{ char str[10];
  printf("enter a string");
  scanf("%s",str);
  printf("your entered string is %s\n",str);
  printf("length is %d",length(str));
  getch();
}
int length(char *s)
{
   int l;
   for(l=0;*(s+l)!='\0';l++);
   return(l);
}
```

**OUTPUT-:**

"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
enter a string jeetu
your entered string is jeetu
length is 5
```

**Q 47. Write a program to copy one String into another String without using library function.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>
#include<conio.h>
void main()
{ char str[10]="computer";
 char cs[10];
 int i;
 for(i=0;str[i]!='\0';i++){
    cs[i]=str[i];
  }
  str[8]='\0';
  puts(cs);
 getch();
}
```

**OUTPUT-:**

"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

computer

**Q 48. Write a c program to perform string manipulation by Using library function.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{char str[20],cs[20];
 char tt[]=" bhai";
 int l,i;
 printf("enter a string : ");
 gets(str);
 l=strlen(str);
 printf("\nLength of given string is  : %d ",l);
 strupr(str);
 printf("\nUpper case string : %s ",str);
 strlwr(str);
 printf("\nLowwer case string : %s ",str);
 strcpy(cs,str);
 printf("\nCopied string is %s ",cs);
 strcat(str,tt);
 printf("\nConcatenet  string is : %s",str);
 strrev(str);
 printf("\nReversed string is %s ",str);
 getch();
```

}

**OUTPUT-:**

"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
enter a string : Ramu

Length of given string is  : 4
Upper case string : RAMU
Lowwer case string : ramu
Copied string is ramu
Concatenet  string is : ramu bhai
Reversed string is iahb umar
```

**Q 49. Write a program to check entered string is palindrome or not.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{char str[20];
int l,i;
 printf("enter a string :  ");
 gets(str);
 l=strlen(str);
 for(i=0;i<l/2;i++){
    if(str[i]!=str[l-1-i]){
       printf("Not a palindrom");
       break;
     }
 }
 if(i==l/2){
    printf("Palidrom");
 }
  getch();
 }
```

**OUTPUT-:**

"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
enter a string :  jeetu
Not a palindrom
```

"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
enter a string :  malayalam
Palidrom
```

**50. Write a c program to read and print an employee's details like name,employee id,salary etc. using structure.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
struct employee
{ char name[10];
 int id;   //
 int salary;
};
void main()
{ struct employee emp[5];
  int i;
  printf(" Enter any five employee's name , Id and Salary \n ");
  for(i=0;i<=5-1;i++)
  { printf("\n Enter the %d employee name ,Id and Salary ",i+1);
    scanf("%s%d%d",emp[i].name,&emp[i].id,&emp[i].salary) ;
  }
  printf("\n");
  for(i=0;i<=5-1;i++)
  { printf("\n The %d employee Name is  %s ,  Id  is  %d  and  Salary is %d  : ",i+1,emp[i].name,emp[i].id,emp[i].salary);
  }
  getch();
}
```

## OUTPUT-:

```
Enter any five employee's name , Id and Salary

Enter the 1 employee name ,Id and Salary  Jeetu   1    500000

Enter the 2 employee name ,Id and Salary  Ravi    2    400000

Enter the 3 employee name ,Id and Salary  Ram     3    300000

Enter the 4 employee name ,Id and Salary  Raj     4    200000

Enter the 5 employee name ,Id and Salary  Jai     5    100000


The 1 employee Name is  Jeetu ,  Id  is  1  and  Salary is  500000   :
The 2 employee Name is  Ravi ,  Id  is  2  and  Salary is  400000   :
The 3 employee Name is  Ram ,   Id  is  3  and  Salary is  300000   :
The 4 employee Name is  Raj ,   Id  is  4  and  Salary is  200000   :
The 5 employee Name is  Jai ,   Id  is  5  and  Salary is  100000   :
```

**Q 51. Create a structure student having data members to store roll number, name of student,name of three subjects, max marks.mim marks.Declare a structure variable of student provide facilities to input data in data member and display result of student.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```
#include<stdio.h>
#include<conio.h>
struct student
{ int rollNo;
 char studentName[10];
 char subjectName[10];
 int Marks;
};
void main()
{ struct student sRollNo,sName[2],sSub[3],sMark;
  int i,j;
  printf(" Enter any two student's name ,Roll Number , the three subject and student marks \n ");
  for(i=0;i<=2-1;i++){
    printf("\n Enter the %d student name and Roll number ",i+1);
    scanf("%s%d",sName[i].studentName,&sRollNo.rollNo) ;
  }
  printf("\n");
  for(i=0;i<=2-1;i++){
     for(j=0;j<=3-1;j++){
     printf("\n Enter the  %d subject and marks for  %d student ",j+1,i+1);
```

```c
            scanf("%s%d",&sSub[j].subjectName,&sMark.Marks) ;

        }

      }

    for(i=0;i<=2-1;i++){

        printf("\n The %d student name is %s and Roll number  %d
    ",i+1,sName[i].studentName,sRollNo.rollNo);

    }

    for(i=0;i<=2-1;i++){

        for(j=0;j<=3-1;j++){

        printf("\n The  %d subject  is %s and marks gets  %d student  is %d
    ",j+1,sSub[j].subjectName,i+1,sMark.Marks);

        }

    }

    getch();

}
```

**OUTPUT-:**

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

Enter any two student's name ,Roll Number , the three subject and  student marks

Enter the 1 student name and Roll number   Jeetu     101

Enter the 2 student name and Roll number   Ravi      102


Enter the  1 subject and marks for  1 student    Maths   86

Enter the  2 subject and marks for  1 student    Science 96

Enter the  3 subject and marks for  1 student    Hindi   98

Enter the  1 subject and marks for  2 student    Maths   78

Enter the  2 subject and marks for  2 student    Science 86

Enter the  3 subject and marks for  2 student    Hindi   67

The 1 student name is Jeetu and Roll number  102
The 2 student name is Ravi and Roll number  102
The  1 subject  is Maths and marks gets  1 student  is 67
The  2 subject  is Science and marks gets  1 student  is 67
The  3 subject  is Hindi and marks gets  1 student  is 67
The  1 subject  is Maths and marks gets  2 student  is 67
The  2 subject  is Science and marks gets  2 student  is 67
The  3 subject  is Hindi and marks gets  2 student  is 67
```

## Q 52. Write a c program to demonstrate structure of array.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
struct book
{ char bname[10];
  int bid;
  float bprice;
} ;
void main()
{ int i;
  struct book b1[3];
    for(i=0;i<3;i++){
      printf("\n Enter the %dst book name ,Id and price",i+1);
      scanf("%s%d%f",b1[i].bname,&b1[i].bid,&b1[i].bprice);
    }
    printf("\n");
    for(i=0;i<3;i++){
      printf("\n The %dst book Name is %s , Id is %d and price is %f
",i+1,b1[i].bname,b1[i].bid,b1[i].bprice);
    }
    getch();
}
```

**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

Enter the 1st book name ,Id and price  Ramayan    101      345.45

Enter the 2st book name ,Id and price  Mahabhrat 102      454.45

Enter the 3st book name ,Id and price  Geeta      103      565.55


The 1st book Name is  Ramayan ,  Id  is  101  and  price is  345.450012
The 2st book Name is  Mahabhrat ,  Id  is  102  and  price is  454.450012
The 3st book Name is  Geeta ,  Id  is  103  and  price is  565.549988
```

## Q 53. Create a user defined type enum days of week and display all.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{   enum days{sun=1,mon,tue,wed,thu,fri,sat};
    int no;
    enum days d1;
    printf("enter the no of week you want two see");
    printf("\nyou want to exit then enter zero\n");
    while(no){
    scanf("%d",&no);
    d1=no;
    if(d1==sun)
    printf("the day is : Sunday\n");
    else if(d1==mon)
     printf("the day is : Monday\n");
    else if(d1==tue)
       printf("the day is : Tuesday\n");
    else if(d1==wed)
       printf("the day is : Wednesday\n");
    else if(d1==thu)
        printf("the day is : Thursday\n");
```

```c
                else if(d1==fri)

                    printf("the day is : Friday\n");

                else if(d1==sat)

                    printf("the day is : Saturday\n");

                else  if(d1!=0)

                {printf("you have exited");

                    exit(0);}

                  else

                    {printf("you have exited");

                    exit(0);}

              }

            }
```

## OUTPUT-:



```
■ "C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"
enter the no of week you want two see
you want to exit then enter zero
1
the day is : Sunday
2
the day is : Monday
3
the day is : Tuesday
4
the day is : Wednesday
5
the day is : Thursday
6
the day is : Friday
7
the day is : Saturday
0
you have exited
Process returned 0 (0x0)   execution time : 13.968 s
Press any key to continue.
```

## Q 54. Write a program in c to find the sum of an array element using pointer and function.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

```c
#include<stdio.h>
#include<conio.h>
int sum(int *p);
void main()
{  int a[5]={2,3,5,6,7};
   int s;
   s=sum(&a);
   printf("sum is %d",s);
   getch();
}
int sum(int *p)
{  int i,s=0;
   for(i=0;i<5;i++){
     s=s+(*(p+i));
   }
   return(s);
}
```

**OUTPUT-:**   ■ "C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
sum is 23_
```

## Q 55. Write a program to sum of two no using pointer.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

```
#include<stdio.h>
#include<conio.h>
void main()
{
   int a,b,c,*p,*q;
   p=&a;
   q=&b;
   printf("enter two number");
   scanf("%d%d",&a,&b);
   c=*p+*q;
   printf("sum is %d",c);
}
```
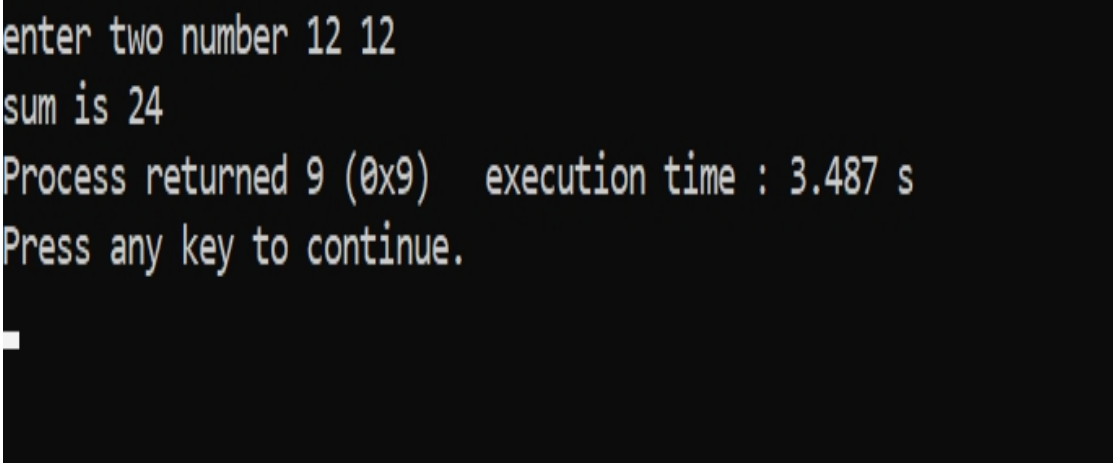
**OUTPUT-:**



"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
enter two number 12 12
sum is 24
Process returned 9 (0x9)   execution time : 3.487 s
Press any key to continue.
```

# Q 56. Write a program in c to show the pointer to pointer.

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
void main()
{  int x,*p,**q;
   p=&x;
   q=&p;
   printf("enter a number");
   scanf("%d",&x);
   printf("value avaliable at x : %d",*p);
   printf("\nvalue avaliable at *p: %d",*p);
   printf("\nvalue avaliable at **q: %d",**q);
   getch();
}
```
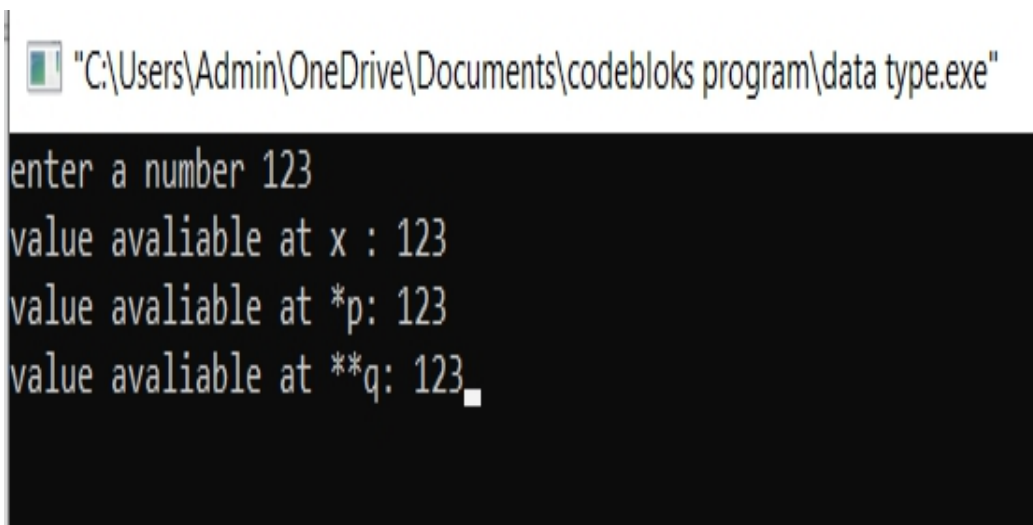
**OUTPUT-:**

**Q 57. Write a program in c to find the maximum number between two number using a Pointers.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
void main()
{ int a,b,*p,*q;
   p=&a;
   q=&b;
   printf("enter two number");
   scanf("%d%d",&a,&b);
   if(*p>*q)
      printf("greater number is %d",*p);
   else
      if(*p==*q)
        printf("both are equal");
     else
        printf("greater number is %d",*q);
   getch();
}
```
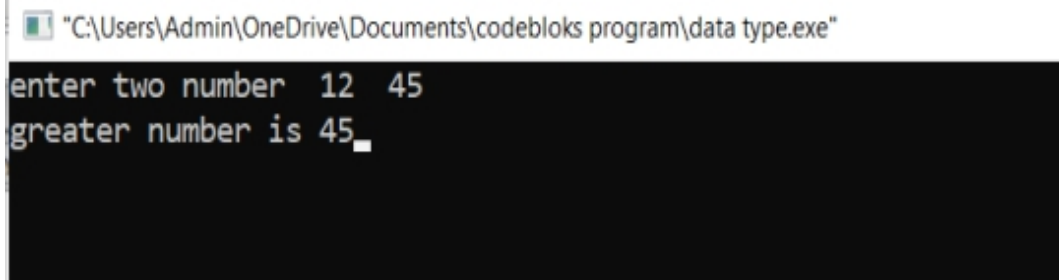
***OUTPUT-:***



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

enter two number  12  45
greater number is 45_
```

**Q58. Write a c program to read and print the student details using structure and Dynamic memory Allocation. Using malloc().**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

struct emp

{

int id;

char name[20];

};

void main()

{

struct emp* p;

int record,i;

p=(struct emp*)malloc(record*sizeof(struct emp));

if(p==NULL)

printf("memory is not allocate");

else

printf("Enter number of record");

scanf("%d",&record);


for(i=1;i<=record;i++)

{

printf("\n\nEnter employee id and name");
```

```c
        scanf("%d%s",&(p+i)->id, &(p+i)->name);

        }

        for(i=1;i<=record;i++)

        {

        printf("\nEmployee id=%d\nEmployee name=%s",(p+i)->id,(p+i)->name);

        }

        getch();

        }
```
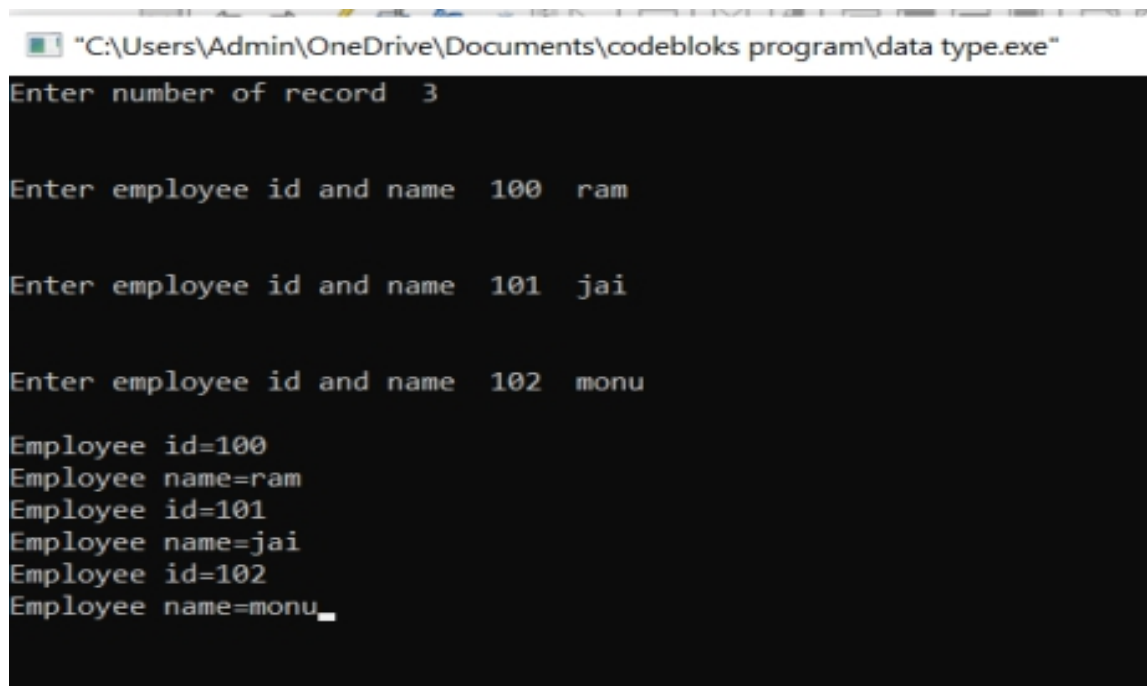
## OUTPUT-:



"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
Enter number of record  3

Enter employee id and name  100  ram

Enter employee id and name  101  jai

Enter employee id and name  102  monu

Employee id=100
Employee name=ram
Employee id=101
Employee name=jai
Employee id=102
Employee name=monu
```

**Q 59. Write a program in c to create a float array dynamically using calloc().input values and display.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

```c
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
int a,i;
float*p;
printf("numbers of elememts to be entered");
scanf("%d",&a);
p=(float*)calloc(a,sizeof(float));
if(p==NULL)
printf("memory to be not allocated");
else
{
printf("Enter %d number\n", a);
for(i=0;i<a; i++)
scanf("%f", &p[i]);
printf("The numbers entered are:\n");
for(i=0; i<a; i++)
printf("%f\n", p[i]);
}
free(p);
```
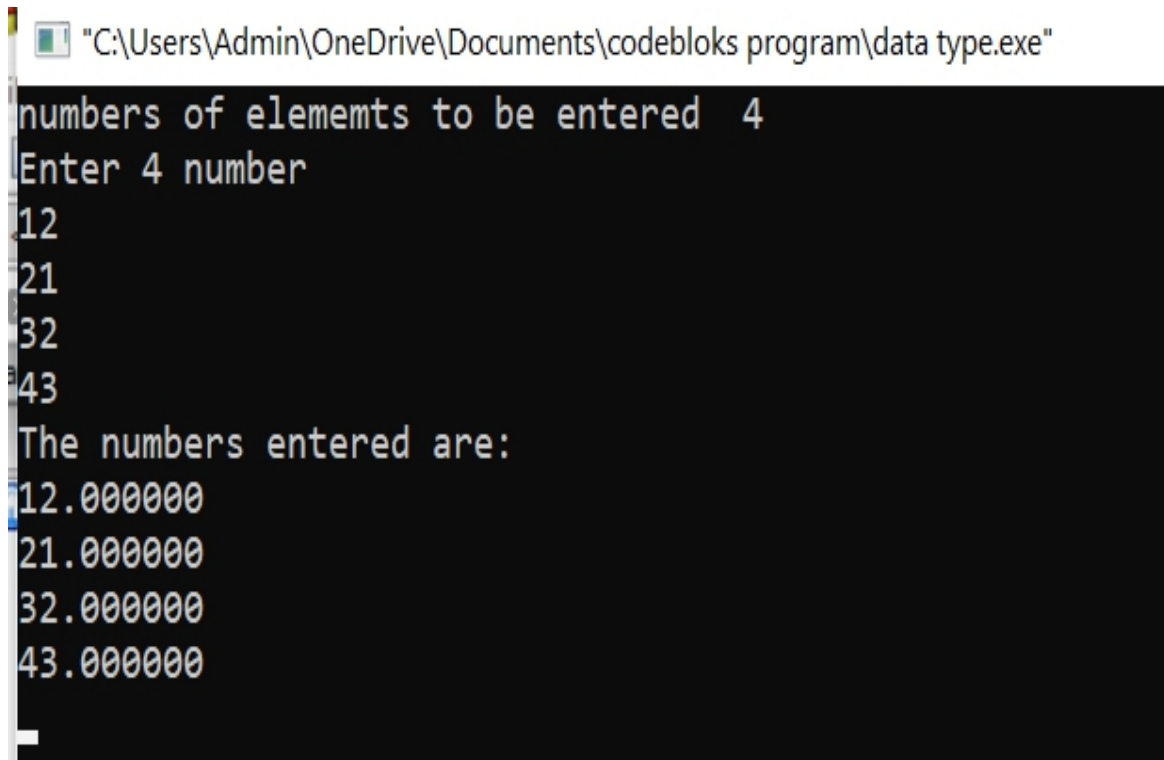
```
                getch();

                }
```

**OUTPUT-:**



```
"C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

numbers of elememts to be entered  4
Enter 4 number
12
21
32
43
The numbers entered are:
12.000000
21.000000
32.000000
43.000000
```

**Q 60. Write a program in c to create a text file .write contents using fprintf and read from file using fscanf**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

**// writing a content in a file using fprintf ()**

```
#include<stdio.h>

#include<conio.h>

void main()

{ int a,b;

 FILE *fp;

 fp=fopen("f1.txt","w");

 printf("enter two number");

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

 fprintf(fp,"%d\n%d\n%d",a,b,a+b);

 fclose(fp);

 getch();

}
```
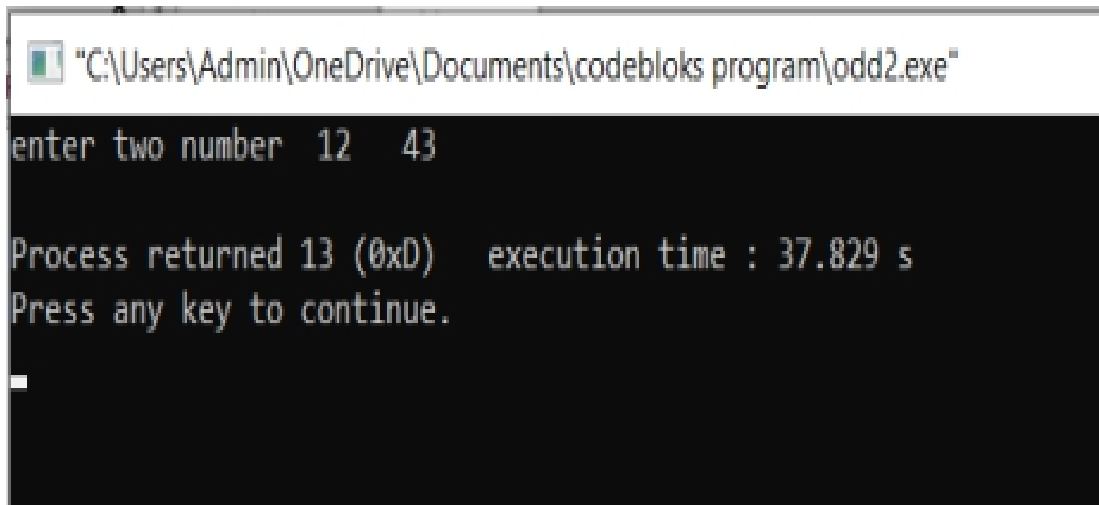
**OUTPUT-:**

```
"C:\Users\Admin\OneDrive\Documents\codebloks program\odd2.exe"

enter two number  12    43

Process returned 13 (0xD)   execution time : 37.829 s
Press any key to continue.
```

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

---

**//reading the content in a file using  fscanf()**

```
#include<stdio.h>

#include<conio.h>

void main()

{ int a,b,c;

 FILE *fp;

 fp=fopen("f1.txt","r");

 fscanf(fp,"%d\n%d\n%d",&a,&b,&c);

 printf("sum of a=%d and b=%d is %d",a,b,c);

 fclose(fp);

 getch();

}
```

**OUTPUT-:**

**Q 61. Write a program in c to create a text file .write contents using fwrite and read from file using freadf**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

---

**// write contents using fwrite function**

```c
#include<stdio.h>

#include<conio.h>

void main()

{   struct book{

    int bookid;

    char title[20];

    float price;

    }b1;

    FILE *fp;

    fp=fopen("mybook.dat","ab");

    printf("enter boolid, title and price : ");

    scanf("%d",&b1.bookid);

    fflush(stdin);

    gets(b1.title);

    scanf("%f",&b1.price);

    fwrite(&b1,sizeof(b1),1,fp);

    fclose(fp);

}
```

**OUTPUT-:**

```
enter boolid, title and price : 100
c language
345.56


Process returned 0 (0x0)   execution time : 22.470 s
Press any key to continue.
```

```
enter boolid, title and price : 101
PHP
450.88


Process returned 0 (0x0)   execution time : 17.091 s
Press any key to continue.
```

```
enter boolid, title and price : 102
JAVA LANGUAGE
245.50


Process returned 0 (0x0)   execution time : 30.548 s
Press any key to continue.
```

**Coding for the program-:**

**Author-:  Jeetu  Sahu**

// read from file using freadf  function

```c
#include<stdio.h>

#include<conio.h>

void main()

{   struct book{

    int bookid;

    char title[20];

    float price;

    }b1;

    FILE *fp;

    fp=fopen("mybook.dat","rb");

    while(fread(&b1,sizeof(b1),1,fp)>0){

        printf("%d  %s   %f\n",b1.bookid,b1.title,b1.price);

    }

    fclose(fp);

}
```

**OUTPUT-:** "C:\Users\Admin\OneDrive\Documents\codebloks program\data type.exe"

```
100  c language   345.559998
101  PHP    450.880005
102  JAVA   245.500000


Process returned 0 (0x0)   execution time : 0.031 s
Press any key to continue.
```

**Q 62. Write a program to demonstrate fseek and rewind.**

**Answer-:**

**:C:\Users\Admin\OneDrive\Documents\codebloks program\datatype.exe**

**Coding for the program-:**

**Author-: Jeetu Sahu**

```c
#include<stdio.h>
#include<conio.h>
void main()
{ char str[30];
 FILE *fp;
 fp=fopen("f1.txt","r+");
 fgets(str,20,fp);
 printf("file is : %s ",str);
 fseek(fp,10,0);
 fputs(" programming",fp);
 rewind(fp);
 fgets(str,25,fp);
 printf("\nfile is : %s",str);
 fclose(fp);
 getch();
 }
```
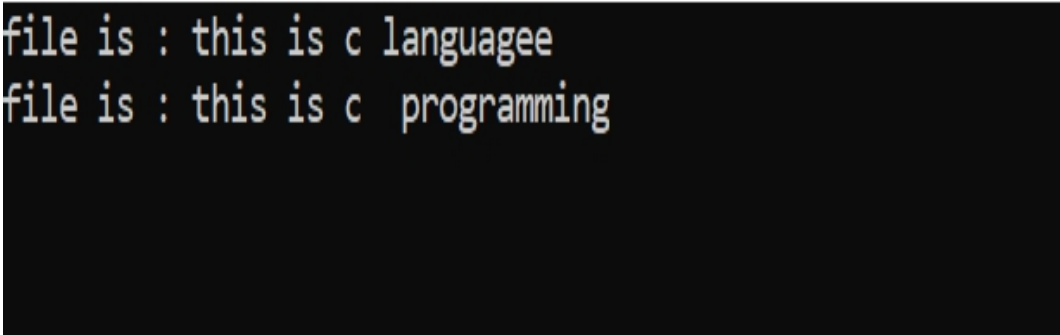
**OUTPUT-:** "C:\Users\Admin\OneDrive\Documents\codebloks program\odd2.exe"

```
file is : this is c languagee
file is : this is c  programming
```