

## Module- 3 [C Programming]

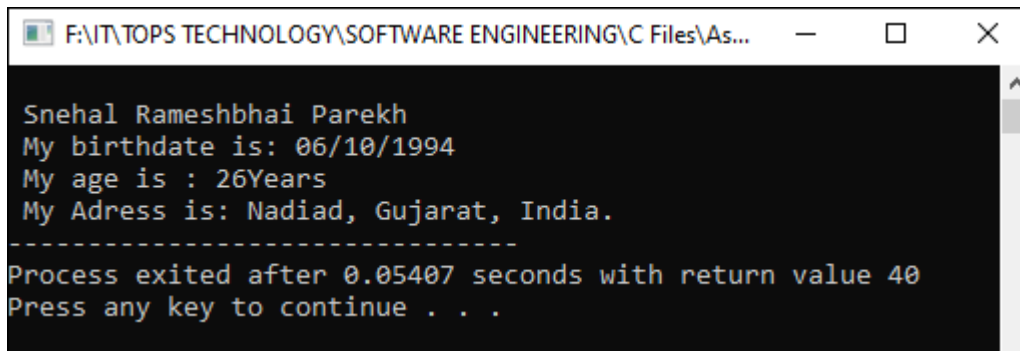
B1.Display This Information using printf

- Your Name
- Your Birth date
- Your Age
- Your Address

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
printf("\n Snehal Rameshbhai Parekh");
printf("\n My birthdate is: 06/10/1994");
printf("\n My age is : 26Years");
printf("\n My Adress is: Nadiad, Gujarat, India. ");
}
```

→Output



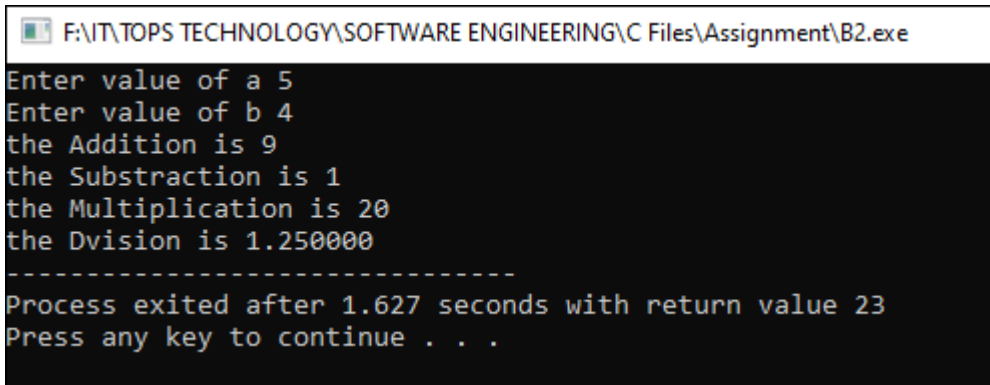
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\As...
Snehal Rameshbhai Parekh
My birthdate is: 06/10/1994
My age is : 26Years
My Adress is: Nadiad, Gujarat, India.
-----
Process exited after 0.05407 seconds with return value 40
Press any key to continue . . .
```

B2.Write a program to make addition, Subtraction, Multiplication and Division of Two Numbers.

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
float a,b,c,d;
printf("Enter value of a ");
scanf("%f",&a);
printf("Enter value of b ");
scanf("%f",&b);
c = a + b;
printf("the Addition is %.0f\n", c);
d = a - b;
printf("the Substraction is %.0f\n", d);
d = a * b;
printf("the Multiplication is %.0f\n", d);
c = a / b;
printf("the Dvision is %f", c);
}
```

### →Output



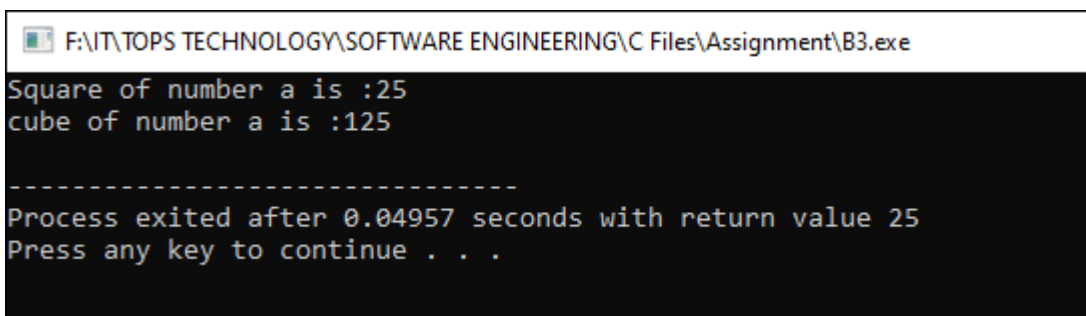
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B2.exe
Enter value of a 5
Enter value of b 4
the Addition is 9
the Substraction is 1
the Multiplication is 20
the Dvision is 1.250000
-----
Process exited after 1.627 seconds with return value 23
Press any key to continue . . .
```

B3. Write a program to make a square and cube of number.

### →Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a=5,b,c;
    b = a*a;
    printf("Square of number a is :%d\n", b);
    c = a*a*a; //or c =b*a;
    printf("cube of number a is :%d\n", c);
}
```

### →Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B3.exe
Square of number a is :25
cube of number a is :125
-----
Process exited after 0.04957 seconds with return value 25
Press any key to continue . . .
```

B4. Write a program to find the Area of Circle

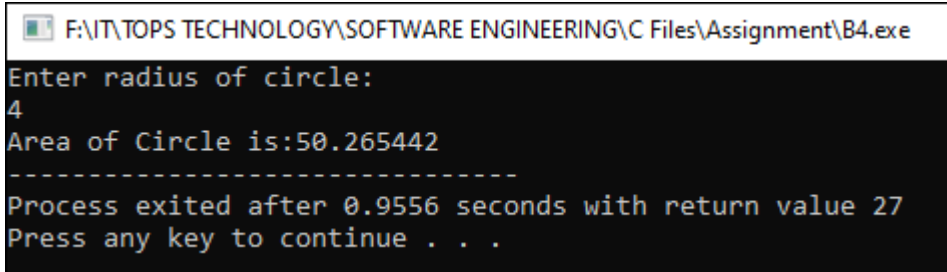
### →Input

```
//formula = pie*r*r
#include<stdio.h>
#include<conio.h>
void main()
{
    float area,r,pie;
    pie = 3.14159;
    printf("Enter radius of circle:\n");
    scanf("%f",&r);
```

## Module- 3 [C Programming]

```
    area = pie*r*r;  
    printf("Area of Circle is:%f",area);  
}
```

### →Output



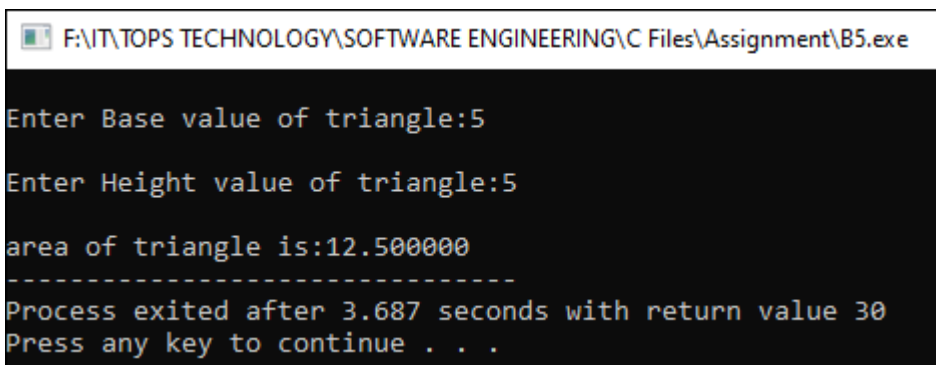
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B4.exe  
Enter radius of circle:  
4  
Area of Circle is:50.265442  
-----  
Process exited after 0.9556 seconds with return value 27  
Press any key to continue . . .
```

B5. Write a program to find the Area of Triangle

### →Input

```
//formula = (base*height)/2  
#include<stdio.h>  
#include<conio.h>  
void main()  
{  
    float base,height,area;  
    printf("\nEnter Base value of triangle:");  
    scanf("%f",&base);  
    printf("\nEnter Height value of triangle:");  
    scanf("%f",&height);  
    area = (base*height)/2;  
    printf("\narea of triangle is:%f",area);  
}
```

### →Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B5.exe  
Enter Base value of triangle:5  
Enter Height value of triangle:5  
area of triangle is:12.500000  
-----  
Process exited after 3.687 seconds with return value 30  
Press any key to continue . . .
```

B6. Write a program to find the simple Interest.

### →Input

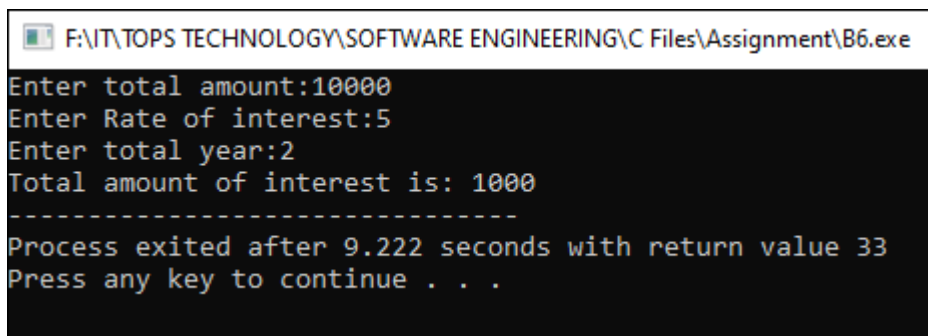
formula =  $(P \times R \times T) / 100$

where P= Principle amount R = Rate of Interest , T = Total years \*/

## Module- 3 [C Programming]

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int P,R,T,interest;
    printf("Enter total amount:");
    scanf("%d",&P);
    printf("Enter Rate of interest:");
    scanf("%d",&R);
    printf("Enter total year:");
    scanf("%d",&T);
    interest = (P*R*T)/100;
    printf("Total amount of interest is: %d",interest);
}
```

### →Output



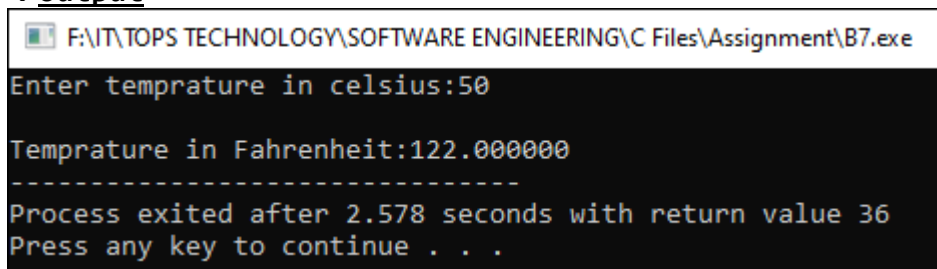
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B6.exe
Enter total amount:10000
Enter Rate of interest:5
Enter total year:2
Total amount of interest is: 1000
-----
Process exited after 9.222 seconds with return value 33
Press any key to continue . . .
```

B7. Write a program to convert temperature from degree centigrade to Fahrenheit.

### →Input

```
//formula = (celsius*1.8)+32
#include<stdio.h>
#include<conio.h>
void main()
{
    int celsius;
    float Fahrenheit;
    printf("Enter temprature in celsius:");
    scanf("%d",&celsius);
    Fahrenheit = (celsius*1.8)+32;
    printf("\nTemprature in Fahrenheit:%f",Fahrenheit);
}
```

### →Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B7.exe
Enter temprature in celsius:50
Temprature in Fahrenheit:122.000000
-----
Process exited after 2.578 seconds with return value 36
Press any key to continue . . .
```

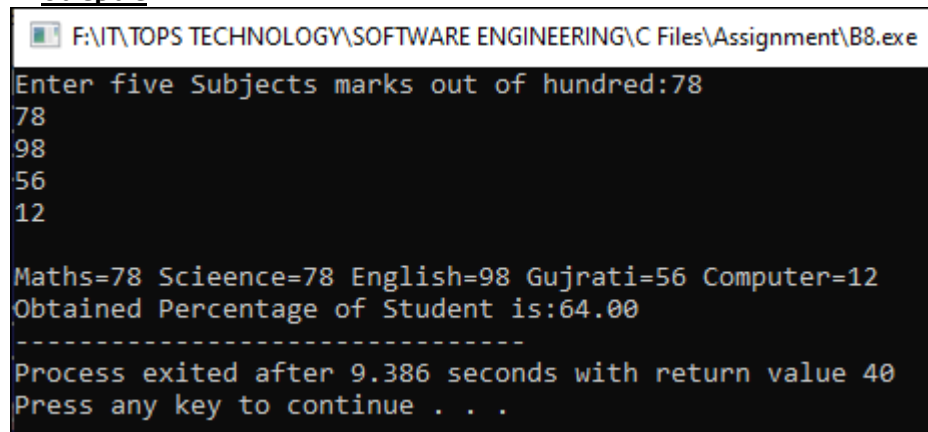
B8. Write a program to calculate sum of 5 subjects & find the percentage. Subject marks entered by user.

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int maths, sci, eng, guj, comp, total;
    float perc;
    printf("Enter five Subjects marks out of hundred:");
    scanf("%d%d%d%d%d",&maths,&sci,&eng,&guj,&comp);
    printf("\nMaths=%d Science=%d English=%d Gujrati=%d
    Computer=%d",maths,sci,eng,guj,comp);

    total = 500;
    perc = ((maths+sci+eng+guj+comp)*100)/total;
    printf("\nObtained Percentage of Student is: %.2f",perc);
}
```

→Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B8.exe
Enter five Subjects marks out of hundred:78
78
98
56
12

Maths=78 Science=78 English=98 Gujrati=56 Computer=12
Obtained Percentage of Student is:64.00
-----
Process exited after 9.386 seconds with return value 40
Press any key to continue . . .
```

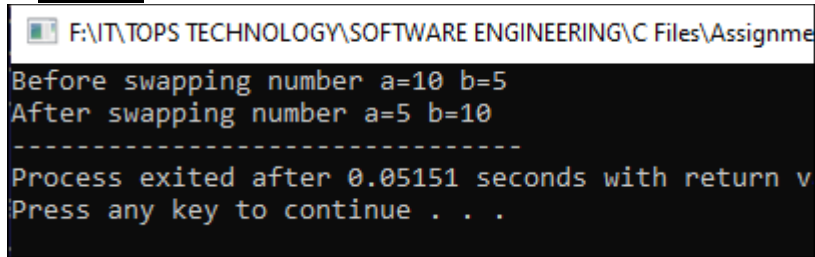
B9. Write a Program to show swap of two No's without using third variable.

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a=10, b=5;
    printf("Before swapping number a=%d b=%d",a,b);
    a=a+b;      //a=15
    b=a-b;      //b=10
    a=a-b;      //a=5

    printf("\nAfter swapping number a=%d b=%d",a,b);
}
```

### →Output



A screenshot of a Windows command prompt window. The title bar shows the file path: F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignme. The output text is: Before swapping number a=10 b=5, After swapping number a=5 b=10, followed by a dashed line, Process exited after 0.05151 seconds with return v, and Press any key to continue . . .

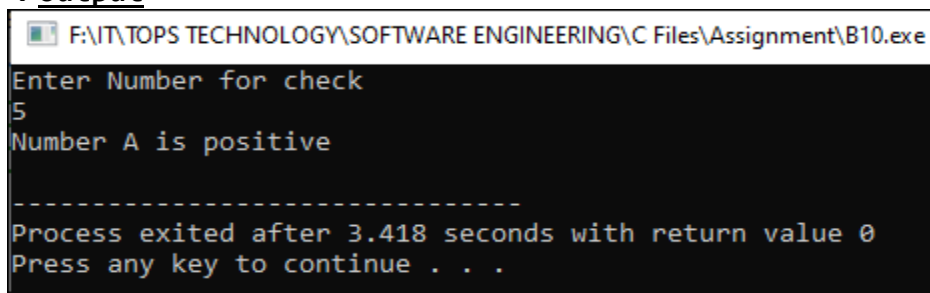
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignme
Before swapping number a=10 b=5
After swapping number a=5 b=10
-----
Process exited after 0.05151 seconds with return v
Press any key to continue . . .
```

B10. Write a Program to check the given number is Positive, Negative.

### →Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a;
    printf("Enter Number for check\n");
    scanf("%d",&a);
    if(a>0)
    {
        printf("Number A is positive\n");
    }
    else if(a<0)
    {
        printf("Number A is Negative");
    }
    else
    {
        printf("You entered Zero");
    }
}
```

### →Output



A screenshot of a Windows command prompt window. The title bar shows the file path: F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B10.exe. The output text is: Enter Number for check, 5, Number A is positive, followed by a dashed line, Process exited after 3.418 seconds with return value 0, and Press any key to continue . . .

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\B10.exe
Enter Number for check
5
Number A is positive
-----
Process exited after 3.418 seconds with return value 0
Press any key to continue . . .
```

I1. Write a Program to check the given year is leap year or not.

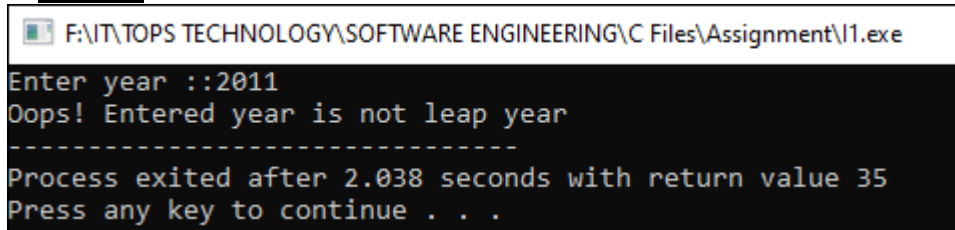
### →Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int year;
    printf("Enter year ::");
```

## Module- 3 [C Programming]

```
scanf("%d",&year);
if(year%4==0 && year%100==0 && year%400==0)
{
    printf("Yeah! Entered year is leap year");
}
else if(year%4==0 && year%100!=0)
{
    printf("Yeah! Enter yeared is leap year");
}
else if(year%4==0 && year%100==0 && year%400!=0)
{
    printf("Oops! Entered year is not leap year");
}
else if(year%4!=0)
{
    printf("Oops! Entered year is not leap year");
}
}
```

→Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\l1.exe
Enter year ::2011
Oops! Entered year is not leap year
-----
Process exited after 2.038 seconds with return value 35
Press any key to continue . . .
```

I2. Write a Program to check the given number is prime or not prime.

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a;
    printf("<-- Enter a Number for checking -->\n");
    scanf("%d",&a);
    if(a>2 && a%2 == 0)
    {
        printf("This number is Prime number");
    }
    else
    {
        printf("This number is not Prime number");
    }
}
```

→Output

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I2.exe
<-- Enter a Number for checking -->
5
This number is not Prime number
-----
Process exited after 2.458 seconds with return value 31
Press any key to continue . . .
```

I3. Write a program to find the Max number from the given three number using Nested If

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a,b,c;
    printf("Enter three numbers\n");
    scanf("%d%d%d",&a,&b,&c);
    printf("First number a:%d, Second Number:%d, Third Number:%d\n",a,b,c);
    if(a<b)
    {
        if(c<b)
        {
            printf("Second number b is max number : %d",b);
        }
        else
            printf("Third number c is max number : %d",c);
    }
    else if(a<c)
    {
        printf("Third number c is max number : %d",c);
    }
    else
    {
        printf("First number a is max number : %d",a);
    }
}
```

→Output

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I3.exe
Enter three numbers
44
52
11
First number a:44, Second Number:52, Third Number:11
Second number b is max number : 52
-----
Process exited after 3.687 seconds with return value 34
Press any key to continue . . .
```



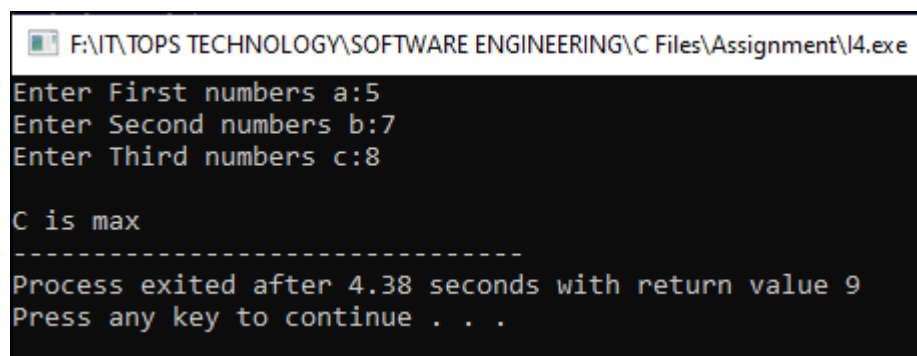
## Module- 3 [C Programming]

I4. Write a program to find the Max number from the given three number using Ternary Operator

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a,b,c,max;
    printf("Enter First numbers a:");
    scanf("%d",&a);
    printf("Enter Second numbers b:");
    scanf("%d",&b);
    printf("Enter Third numbers c:");
    scanf("%d",&c);
    max = (a>b)?printf("\nA is max") : (b>c)?printf("\nB is max")
: printf("\nC is max");
}
```

→Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I4.exe
Enter First numbers a:5
Enter Second numbers b:7
Enter Third numbers c:8

C is max
-----
Process exited after 4.38 seconds with return value 9
Press any key to continue . . .
```

I5. Write a program user enter the 5 subjects mark. You have to make a total and find the percentage.

Percentage > 75 you have to print "Distinction"

Percentage > 60 and percentage <= 75 you have to print "First class"

Percentage > 50 and percentage <= 60 you have to print "Second class"

Percentage > 35 and percentage <= 50 you have to print "Pass class"

Otherwise print "Fail"

→Input

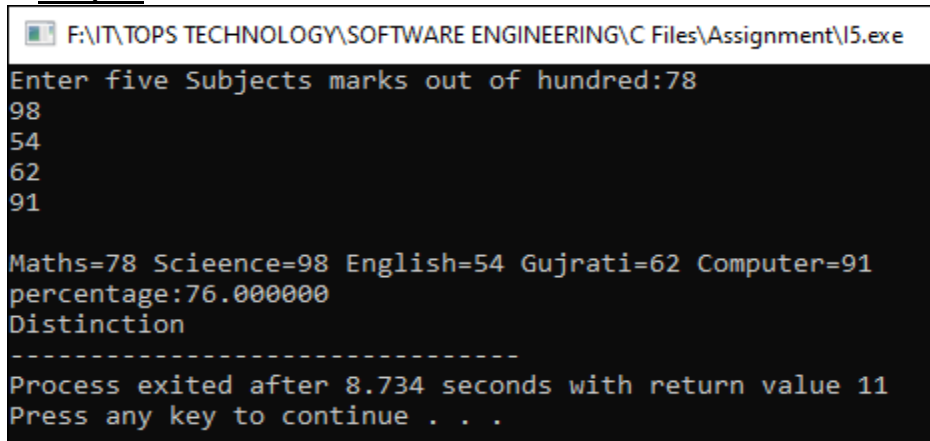
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int maths, sci, eng, guj, comp, total;
    float perc;
    printf("Enter five Subjects marks out of hundred:");
    scanf("%d%d%d%d%d", &maths, &sci, &eng, &guj, &comp);
```

## Module- 3 [C Programming]

```
printf("\nMaths=%d Science=%d English=%d Gujarati=%d\n",maths,sci,eng,guj,comp);
Computer=%d\n",maths,sci,eng,guj,comp);
```

```
total = 500;
perc = ((maths+sci+eng+guj+comp)*100)/total;
printf("percentage:%f\n",perc);
if(perc>75)
{
    printf("Distinction");
}
else if(60<perc && perc<=75)
{
    printf("First Class");
}
else if(50<perc && perc<=60)
{
    printf("Second Class");
}
else if(35<perc && perc<=50)
{
    printf("Pass Class");
}
else
{
    printf("fail");
}
```

### →Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\15.exe
Enter five Subjects marks out of hundred:78
98
54
62
91

Maths=78 Science=98 English=54 Gujarati=62 Computer=91
percentage:76.000000
Distinction
-----
Process exited after 8.734 seconds with return value 11
Press any key to continue . . .
```

I6. Write Program use switch statement. Display Monday to Sunday

### →Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int day;
    printf("Enter your choice Days\n:");
    scanf("%d",&day);
```

```
switch(day)
{
case 1:
    printf("Monday");
    break;

case 2:
    printf("Tuesday");
    break;

case 3:
    printf("Wednesday");
    break;

case 4:
    printf("Thursday");
    break;

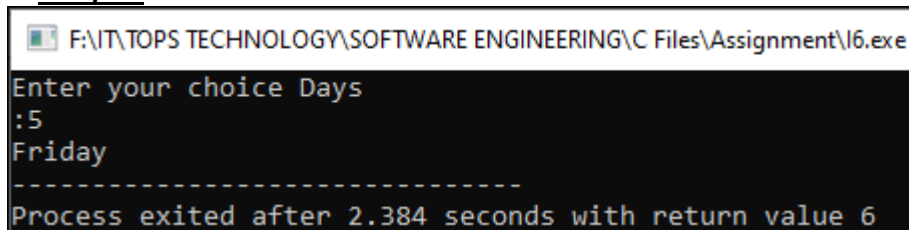
case 5:
    printf("Friday");
    break;

case 6:
    printf("Saturday");
    break;

case 7:
    printf("Sunday");
    break;

default:
    printf("Day Invalid");
}
}
```

→**Output**



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\l6.exe
Enter your choice Days
:5
Friday
-----
Process exited after 2.384 seconds with return value 6
```

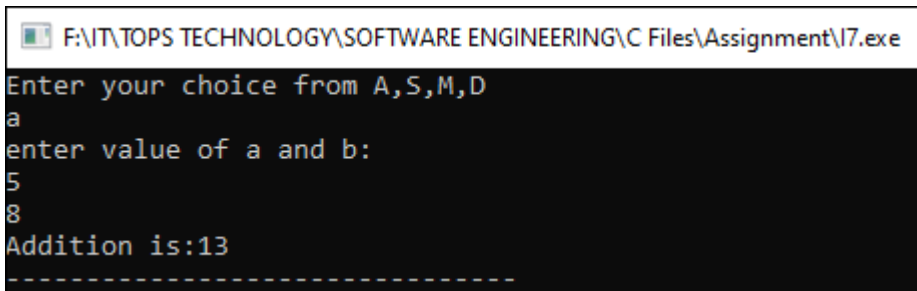
17. Write a Program of Addition, Subtraction, Multiplication and Division using Switch case. (Must Be Menu Driven)

→**Input**

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

```
void main()
{
    int a,b,c;
    char operation;
    printf("Enter your choice from A,S,M,D\n");
    scanf("%c",&operation);
    switch((char)operation)
    {
        case 'a':
            printf("enter value of a and b:");
            scanf("%d%d",&a,&b);
            c = a + b;
            printf("Addition is:%d",c);
            break;
        case 's':
            printf("enter value of a and b:");
            scanf("%d%d",&a,&b);
            c = a - b;
            printf("Subtraction is:%d",c);
            break;
        case 'd':
            printf("enter value of a and b:");
            scanf("%d%d",&a,&b);
            c = a / b;
            printf("Division is:%d",c);
            break;
        case 'm':
            printf("enter value of a and b:");
            scanf("%d%d",&a,&b);
            c = a * b;
            printf("Multiplication is:%d",c);
            break;
        default:
            printf("this calculation is not supported");
    }
}
```

→Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I7.exe
Enter your choice from A,S,M,D
a
enter value of a and b:
5
8
Addition is:13
-----
```

I8. Write a program to find out the Area of Triangle, Rectangle and Circle using If Condition. (Must Be Menu Driven)

## →Input

```

/* area of triangle = (hieght*base)/2
area of rectangle = length*width
area of circle = pie*r*r */
#include<stdio.h>
#include<conio.h>
void main()
{
    int a;
    printf("Please Enter method number:");
    scanf("%d",&a);
    if(a == 1)
    {
        float base,height,area;
        printf("\nEnter Base value of triangle:");
        scanf("%f",&base);
        printf("\nEnter Height value of triangle:");
        scanf("%f",&height);
        area = (base*height)/2;
        printf("\narea of triangle is:%f",area);
    }
    else if(a == 3)
    {
        float area,r,pie;
        pie = 3.14159;
        printf("Enter radius of circle:\n");
        scanf("%f",&r);
        area = pie*r*r;
        printf("Area of Circle is:%f",area);
    }
    else if(a == 2)
    {
        float length, width, area;
        printf("Please enter length of rectangle:");
        scanf("%f",&length);
        printf("Please enter width of rectangle:");
        scanf("%f",&width);
        area = length * width;
        printf("Area of rectangle is:%f",area);
    }
    else
    {
        printf("please select supported method for our program");
    }
}

```

### →Output

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignme
Please Enter method number:2
Please enter length of rectangle:10
Please enter width of rectangle:20
Area of rectangle is:200.000000
-----
Process exited after 30.63 seconds with return val
Press any key to continue . . .
```

### I9. Looping Programs

- Write a program to print the 1 to 10 using for loop.

#### →Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i;
    for(i=1;i<=10;i++)
    {
        printf("The number is:%d\n",i);
    }
}
```

#### →Output

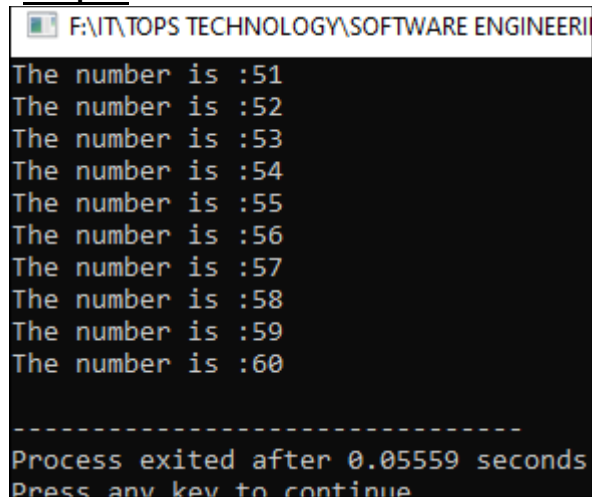
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9_1.e
The number is:1
The number is:2
The number is:3
The number is:4
The number is:5
The number is:6
The number is:7
The number is:8
The number is:9
The number is:10
-----
Process exited after 0.0481 seconds with return value 17
Press any key to continue . . .
```

- Write a Program to print the 51 to 60 using while loop

#### →Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i=51;
    while(i<=60)
    {
        printf("The number is :%d\n",i);
        i++;
    }
}
```

### →Output



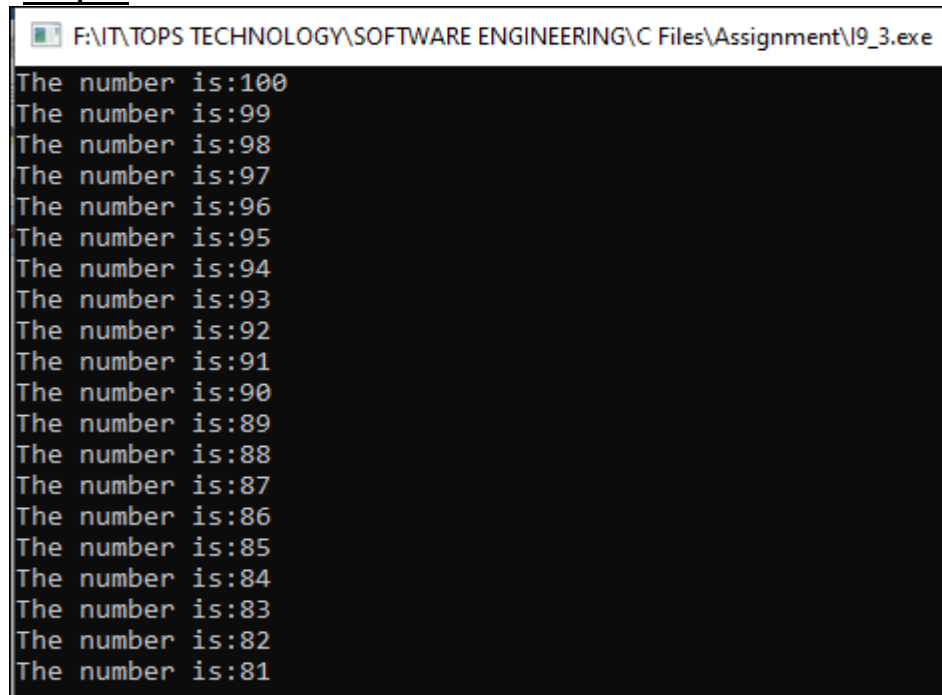
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\  
The number is :51  
The number is :52  
The number is :53  
The number is :54  
The number is :55  
The number is :56  
The number is :57  
The number is :58  
The number is :59  
The number is :60  
-----  
Process exited after 0.05559 seconds  
Press any key to continue
```

- write a program to print the 100 to 81 using do while loop

### →Input

```
#include<stdio.h>  
#include<conio.h>  
void main()  
{  
    int i=100;  
    do  
    {  
        printf("The number is:%d\n",i);  
        i--;  
    }  
    while(i>80);  
}
```

### →Output



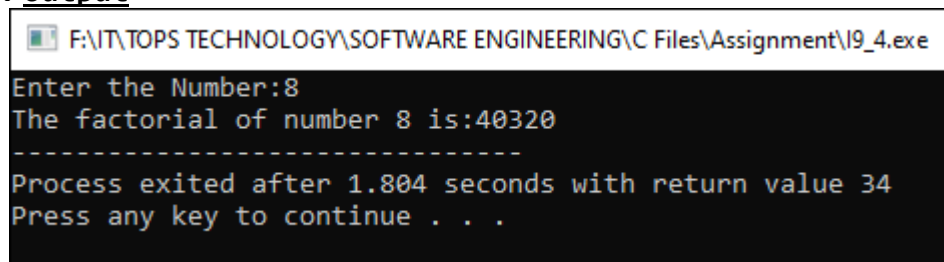
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9_3.exe  
The number is:100  
The number is:99  
The number is:98  
The number is:97  
The number is:96  
The number is:95  
The number is:94  
The number is:93  
The number is:92  
The number is:91  
The number is:90  
The number is:89  
The number is:88  
The number is:87  
The number is:86  
The number is:85  
The number is:84  
The number is:83  
The number is:82  
The number is:81
```

d .write a program you have to find the factorial of given number.

→Input

```
//factorial example of 5 = 1*2*3*4*5
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,fact,number;
    fact=1;
    printf("Enter the Number:");
    scanf("%d",&number);
    for(i=1;i<=number;i++)
    {
        fact = fact*i;
    }
    printf("The factorial of number %d is:%d", number,fact);
}
```

→Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9_4.exe
Enter the Number:8
The factorial of number 8 is:40320
-----
Process exited after 1.804 seconds with return value 34
Press any key to continue . . .
```

- Write a program you have to print the Fibonacci series up to user given number

→Input

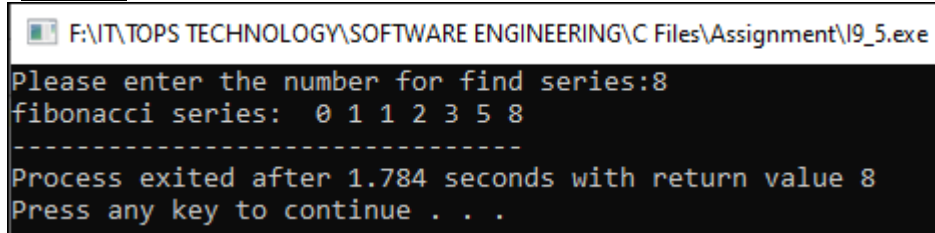
```
/*example of fibonacci series of 20 = 0,1,2,3,5,8,13
f3 = f1+f2
f4 = f2+f3
. . . . . f111 = f109 +f110
logic change the value f1= f2 & f2 = f3 */
#include<stdio.h>
#include<conio.h>
void main()
{
    int i=0,j=0,fibo,number;
    printf("Please enter the number for find series:");
    scanf("%d",&number);
    printf("fibonacci series: ");
    for(i=0; i<=number ;i++)
    {
        printf(" %d",i);
        fibo = i+j;
        i=j;
    }
```



## Module- 3 [C Programming]

```
        j=fibo;  
    }  
}
```

### →Output



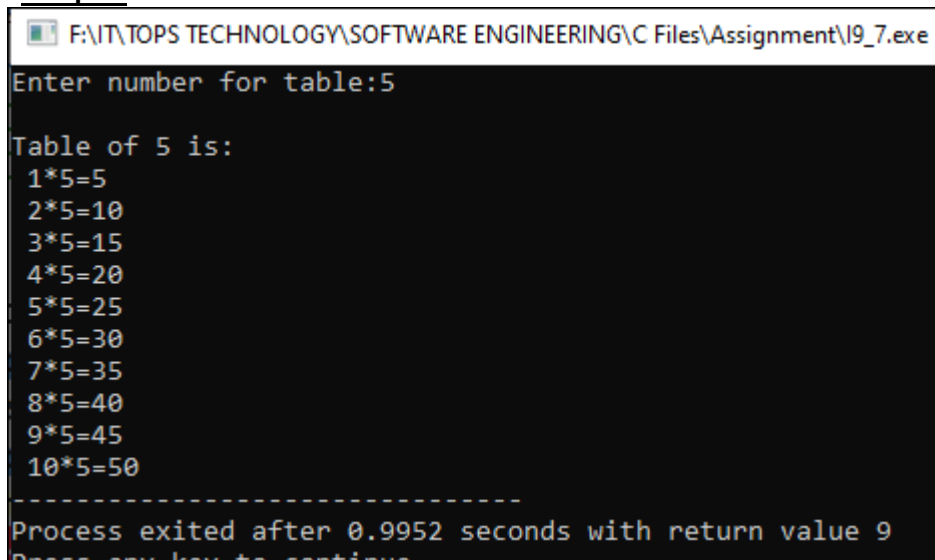
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9\_5.exe  
Please enter the number for find series:8  
fibonacci series: 0 1 1 2 3 5 8  
-----  
Process exited after 1.784 seconds with return value 8  
Press any key to continue . . .

- Write a program you have to print the table of given number.

### →Input

```
#include<stdio.h>  
#include<conio.h>  
void main()  
{  
    int i,tab,num;  
    printf("Enter number for table:");  
    scanf("%d",&num);  
    printf("\nTable of %d is:",num);  
    for(i=1;i<=10;i++)  
    {  
        tab = i*num;  
        printf("\n %d*%d=%d", i,num,tab);  
    }  
}
```

### →Output



F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9\_7.exe  
Enter number for table:5  
Table of 5 is:  
1\*5=5  
2\*5=10  
3\*5=15  
4\*5=20  
5\*5=25  
6\*5=30  
7\*5=35  
8\*5=40  
9\*5=45  
10\*5=50  
-----  
Process exited after 0.9952 seconds with return value 9  
Press any key to continue . . .

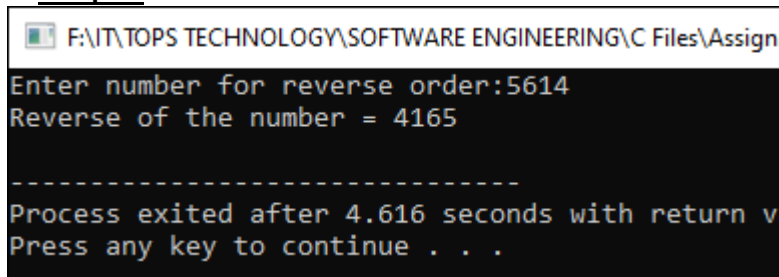
- Write a program to print the number in reverse order.

### →Input

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

```
void main()
{
    int n, rev=0;
    printf("Enter number for reverse order:");
    scanf("%d",&n);
    while (n != 0)
    {
        rev = rev * 10;
        rev = rev + n%10;
        n = n/10;
    }
    printf("Reverse of the number = %d\n", rev);
}
```

### →Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assign
Enter number for reverse order:5614
Reverse of the number = 4165

-----
Process exited after 4.616 seconds with return v
Press any key to continue . . .
```

h .Write a program to find out the max from given number (E.g. No: - 1562 Max number is 6 )

### →Input

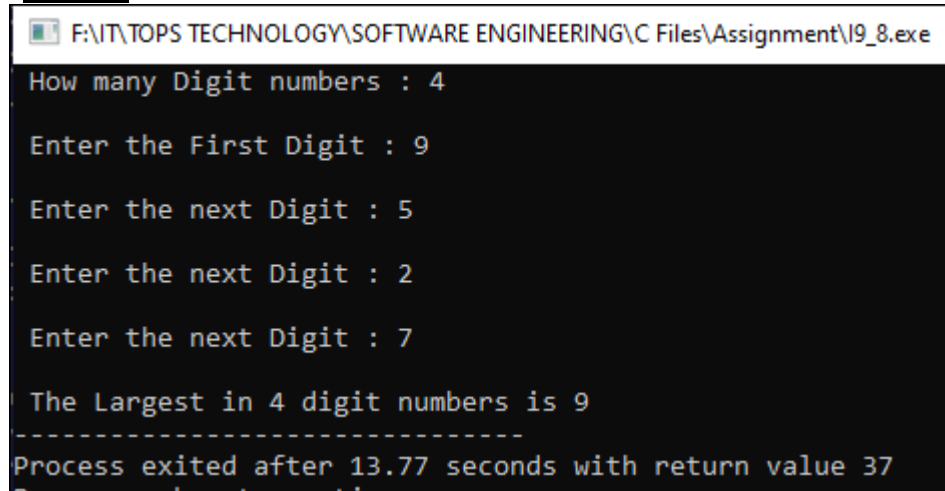
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n, s1, s2, z;
    printf(" How many Digit numbers : ");
    scanf("%d", &n);
    z=n;
    if(n>0)
    {
        printf("\n Enter the First Digit : ");
        scanf("%d", &s1);
        n--;
        if(n>0)
        {
            for(;n>=1; n--)
            {
                printf("\n Enter the next Digit : ");
                scanf("%d", &s2);
                if(s1<s2)
                    s1=s2;
            }
        }
    }
}
```

```

    }
    printf("\n The Largest in %d digit numbers is %d", z, s1);
}

```

### →Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9_8.exe
How many Digit numbers : 4
Enter the First Digit : 9
Enter the next Digit : 5
Enter the next Digit : 2
Enter the next Digit : 7
The Largest in 4 digit numbers is 9
-----
Process exited after 13.77 seconds with return value 37

```

i. Write a program make a summation of given number (E.g. 1523 ans :-11)

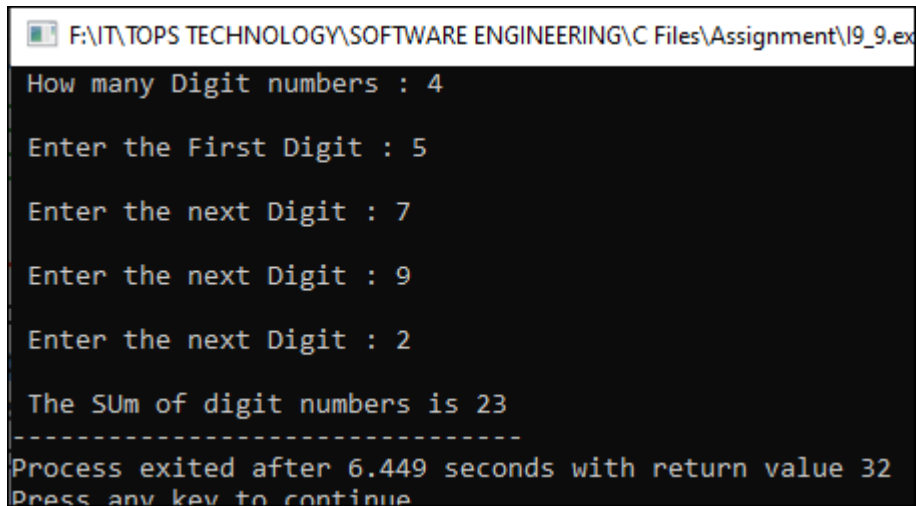
### →Input

```

#include<stdio.h>
#include<conio.h>
void main()
{
    int n, s1, s2,z;
    printf(" How many Digit numbers : ");
    scanf("%d", &n);
    if(n>0)
    {
        printf("\n Enter the First Digit : ");
        scanf("%d", &s1);
        n--;
        if(n>0)
        {
            for(;n>=1; n--)
            {
                printf("\n Enter the next Digit : ");
                scanf("%d", &s2);
                s1 = s1+s2;
            }
        }
    }
    printf("\n The SUM of digit numbers is %d", s1);
}

```

### →Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9_9.exe
How many Digit numbers : 4
Enter the First Digit : 5
Enter the next Digit : 7
Enter the next Digit : 9
Enter the next Digit : 2
The SUM of digit numbers is 23
-----
Process exited after 6.449 seconds with return value 32
Press any key to continue
```

j. Write a program you have to make a summation of first and last Digit. (E.g. 1234 ans:-5)

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n, s1, s2,z;
    printf(" How many Digit numbers : ");
    scanf("%d", &n);
    if(n>0)
    {
        printf("\n Enter the First Digit : ");
        scanf("%d", &s1);
        n--;
        if(n>0)
        {
            for(;n>=1; n--)
            {
                printf("\n Enter the next Digit : ");
                scanf("%d", &s2);

                s1 = s1+s2;
            }
        }
        printf("\n The SUM of digit numbers is %d", s1);
    }
}
```

### →Output

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I9_10.exe
How many Digit numbers : 5
Enter the First Digit : 6
Enter the next Digit : 4
Enter the next Digit : 7
Enter the next Digit : 9
Enter the next Digit : 9
The SUM of digit numbers is 15
-----
Process exited after 10.58 seconds with return value 32
Press any key to continue . . .
```

### I.10. Pyramid Programs (1 to 16).

#### 1.2.3. PROGRAM

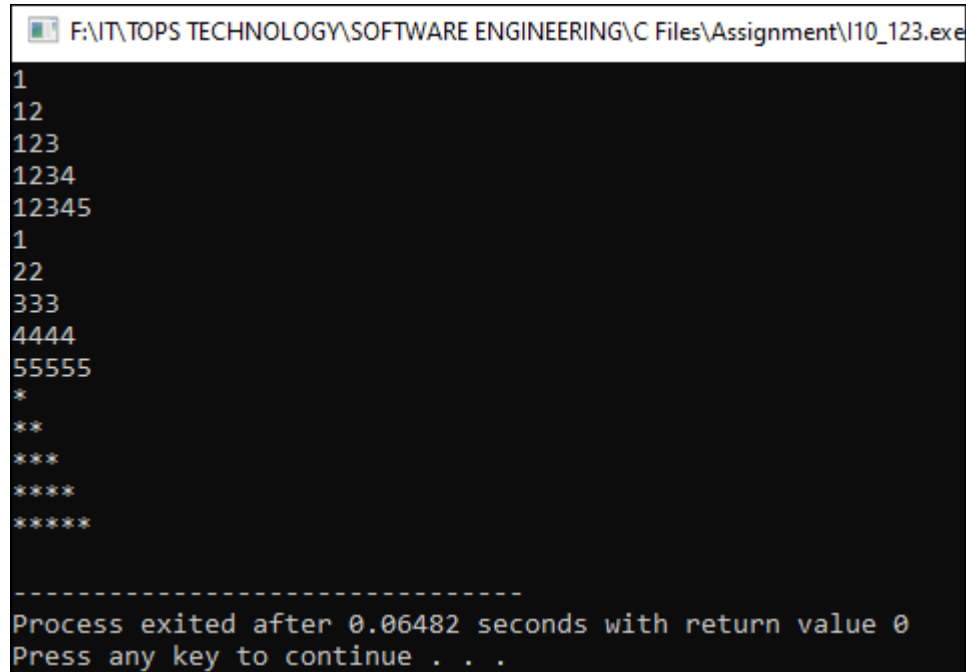
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<i;j++)
        {
            printf("%d",j);
        }
        printf("%d\n",i);
    }

    for(i=1;i<=5;i++)
    {
        for(j=1;j<i;j++)
        {
            printf("%d",i);
        }
        printf("%d\n",i);
    }

    for(k=1;k<=5;k++)
    {
        for(m=1;m<k;m++)
        {
```

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

### OUTPUT



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_123.exe
1
12
123
1234
12345
1
22
333
4444
55555
*
**
***
****
*****
-----
Process exited after 0.06482 seconds with return value 0
Press any key to continue . . .
```

### 4. PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m=0;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>i;j--)
            printf(" ");

        for(k=1;k<=m;k++)
            printf("*");

        printf("*\n");
        m++;
    }
}
```

### OUTPUT

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assig
*
**
***
****
*****

-----
Process exited after 0.04965 seconds with retur
Press any key to continue . . .
```

### 5. PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k;
    for(i=1;i<=5;i++)
    {
        for(k=5;k>=i;k--)
            printf(" ");
        for(j=1;j<=i;j++)
            printf("%d",i-j+1);
        printf("\n");
    }
}
```

### OUTPUT

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_5.exe
1
21
321
4321
54321

-----
Process exited after 0.05084 seconds with return value 10
Press any key to continue . . .
```

### 6. PROGRAM

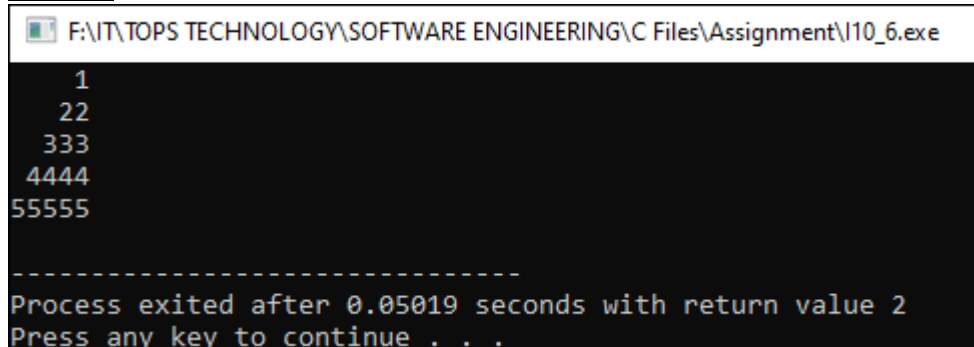
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m=1;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>m;j--)
```

```

    {
        printf(" ");
    }
    m++;
    for(k=1;k<i;k++)
    {
        printf("%d",i);
    }
    printf("%d\n",i);
}
}

```

### OUTPUT



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_6.exe
1
22
333
4444
55555
-----
Process exited after 0.05019 seconds with return value 2
Press any key to continue . . .

```

### 7. PROGRAM

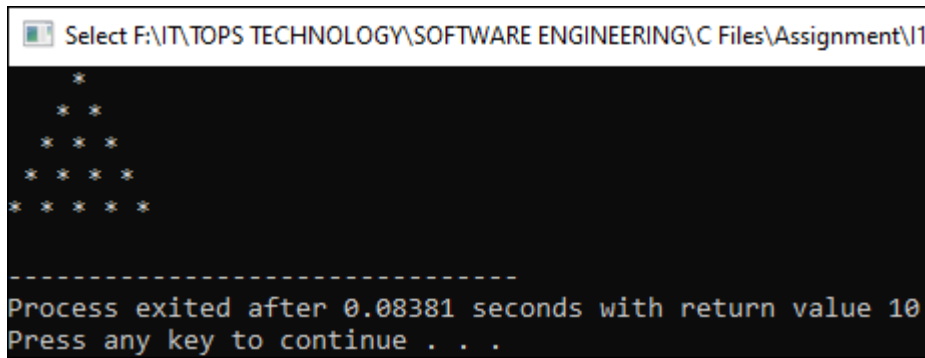
```

#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m;
    m=1;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>m;j--)
        {
            printf(" ");
        }
        m++;
        for(k=1;k<=i;k++)
        {
            printf("* ");
        }
        printf("\n");
    }
}

```

### OUTPUT





```
Select F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_8.exe

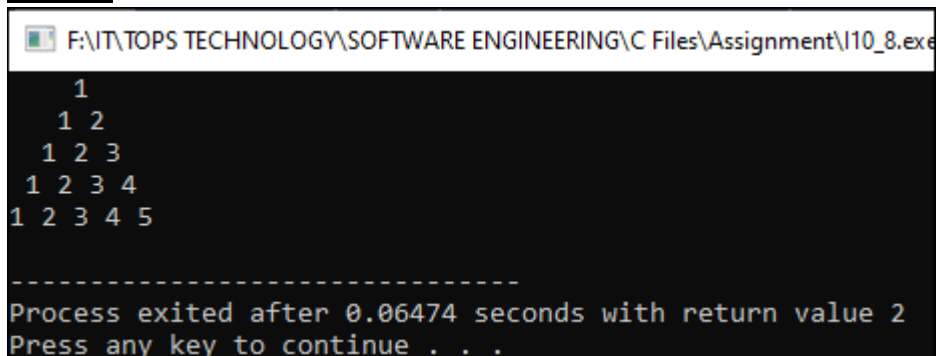
*
* *
* * *
* * * *
* * * * *

-----
Process exited after 0.08381 seconds with return value 10
Press any key to continue . . .
```

### 8. PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m;
    m=1;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>m;j--)
        {
            printf(" ");
        }
        m++;
        for(k=1;k<i;k++)
        {
            printf("%d",k);
            printf(" ");
        }
        printf("%d\n",i);
    }
}
```

### OUTPUT



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_8.exe

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

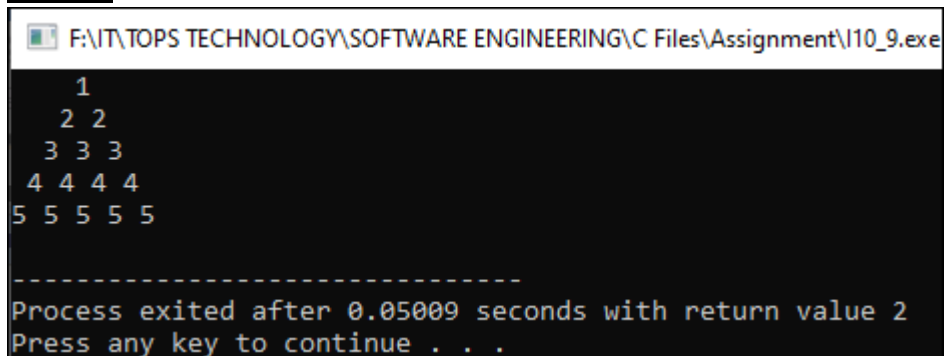
-----
Process exited after 0.06474 seconds with return value 2
Press any key to continue . . .
```

### 9. PROGRAM

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

```
#include<conio.h>
void main()
{
    int i,j,k,m;
    m=1;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>m;j--)
        {
            printf(" ");
        }
        m++;
        for(k=1;k<i;k++)
        {
            printf("%d ",i);
        }
        printf("%d\n",i);
    }
}
```

### OUTPUT



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

-----
Process exited after 0.05009 seconds with return value 2
Press any key to continue . . .
```

### 10. PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k=1;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d",k);
            k++;
        }
        printf("\n");
    }
}
```

```
}
```

### OUTPUT

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_10.exe
1
23
456
78910
1112131415
-----
Process exited after 0.05179 seconds with return value 10
Press any key to continue . . .
```

### 11. PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k=1;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d",k%2);
            k++;
        }
        printf("\n");
        if(i%2==0)
            k = 1;
        else
            k = 0;
    }
}
```

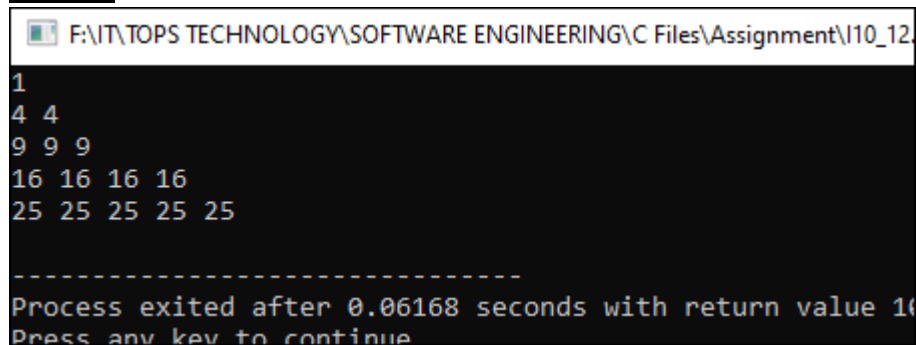
### OUTPUT

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_11.exe
1
01
101
0101
10101
-----
Process exited after 0.05288 seconds with return value 1
Press any key to continue . . .
```

### 12. PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d ",i*i);
        }
        printf("\n");
    }
}
```

### OUTPUT



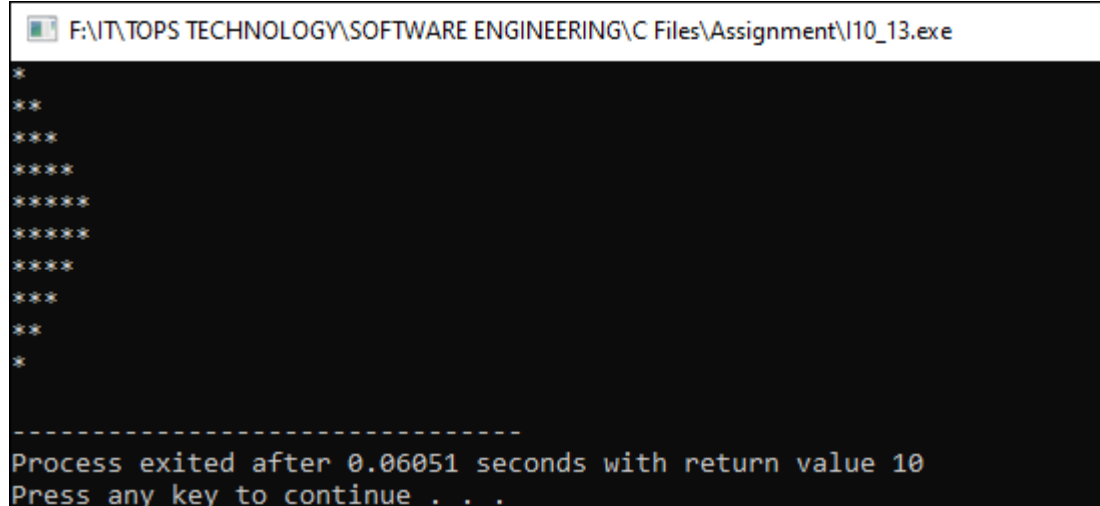
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_12.
1
4 4
9 9 9
16 16 16 16
25 25 25 25 25
-----
Process exited after 0.06168 seconds with return value 10
Press any key to continue
```

### 13. PROGRAM

```
#include<conio.h>
#include<stdio.h>
void main()
{
    int i,j,k;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("*");
        }
        printf("\n");
    }
    for(i=1;i<=5;i++)
    {
        for(k=5;k>=i;k--)
        {
            printf("*");
        }
    }
}
```

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

### OUTPUT

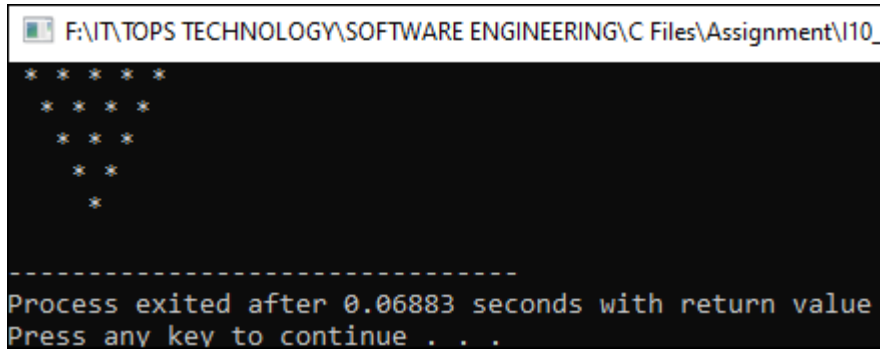


```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\10_13.exe  
*  
**  
***  
****  
*****  
*****  
****  
***  
**  
*  
  
-----  
Process exited after 0.06051 seconds with return value 10  
Press any key to continue . . .
```

### 14. PROGRAM

```
#include<conio.h>  
#include<stdio.h>  
void main()  
{  
    int i,j,k,m;  
    m=1;  
    for(i=1;i<=5;i++)  
    {  
        for(j=1;j<=m;j++)  
        {  
            printf(" ");  
        }  
        m++;  
        for(k=5;k>=i;k--)  
        {  
            printf("* ");  
        }  
        printf("\n");  
    }  
}
```

### OUTPUT



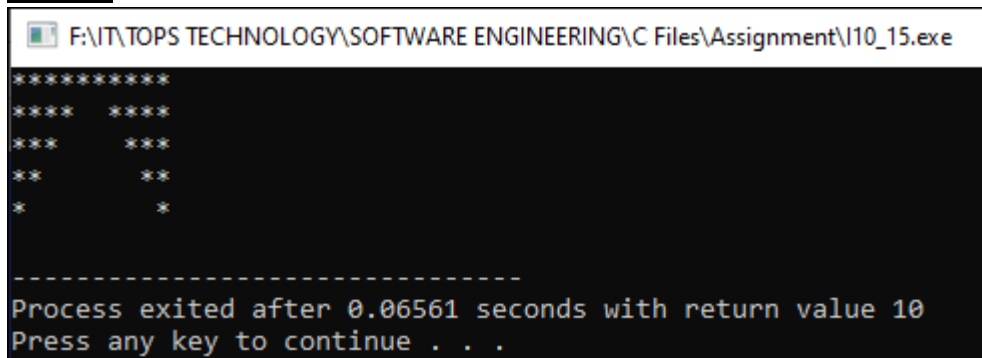
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_15.exe
*****
****
***
**
*

-----
Process exited after 0.06883 seconds with return value
Press any key to continue . . .
```

### 15. PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>=i;j--)
        {
            printf("*");
        }
        for(k=1;k<i;k++)
        {
            printf(" ");
        }
        for(m=5;m>=i;m--)
        {
            printf("*");
        }
        printf("\n");
    }
}
```

### OUTPUT



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_15.exe
*****
****
***
**
*

-----
Process exited after 0.06561 seconds with return value 10
Press any key to continue . . .
```

**16. PROGRAM**

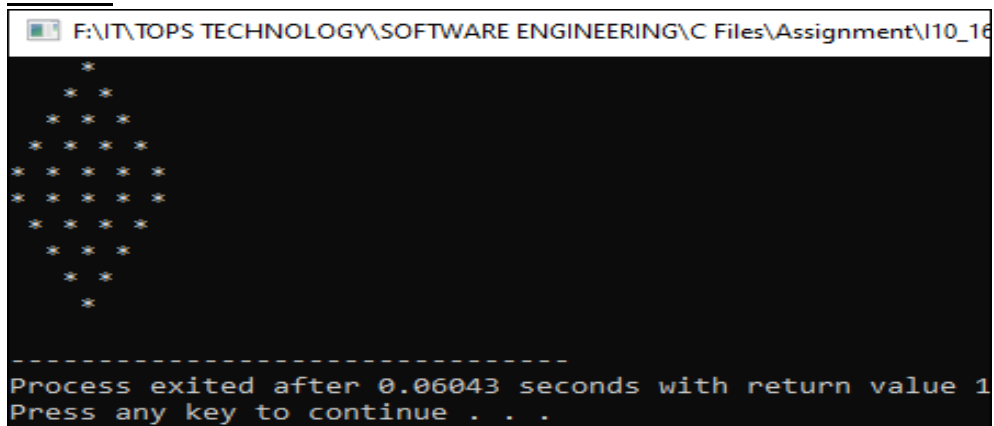
```

#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,m;
    m=1;
    for(i=1;i<=5;i++)
    {
        for(j=5;j>m;j--)
        {
            printf(" ");
        }
        m++;
        for(k=1;k<=i;k++)
        {
            printf("* ");
        }
        printf("\n");
        m=0;
    }
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=m;j++)
            printf(" ");

        m++;
        for(k=5;k>=i;k--)
            printf("* ");

        printf("\n");
    }
}

```

**OUTPUT**


```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I10_16
  *
 * *
* * *
* * * *
* * * * *
 * * * *
  * * *
   * *
    *

-----
Process exited after 0.06043 seconds with return value 1
Press any key to continue . . .

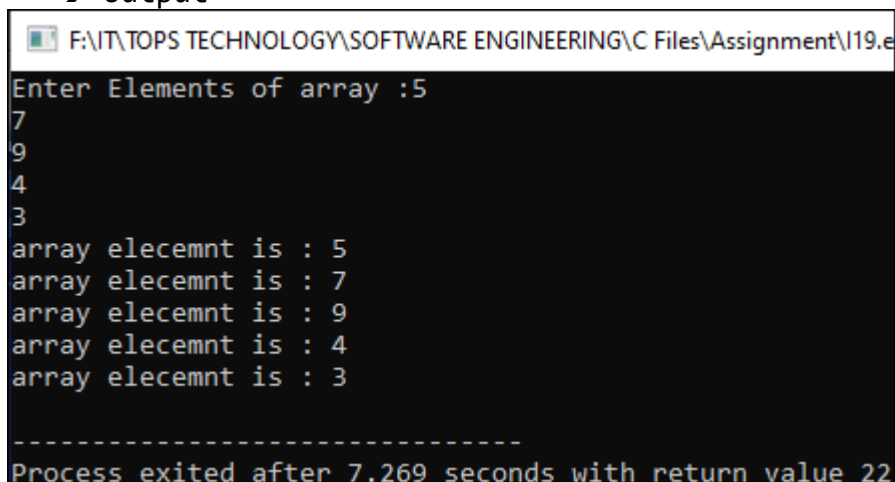
```

I19. Write a program to enter a five elements using Array and print it on a screen.

➔ Program

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,arr[5];
    printf("Enter Elements of array :");
    for(i=0;i<5;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<5;i++)
    {
        printf("array elecemnt is : %d\n",arr[i]);
    }
}
```

➔ Output



The screenshot shows a Windows command prompt window with the title bar 'F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\I19.e'. The prompt displays the program's output: 'Enter Elements of array :5', followed by five lines of input (7, 9, 4, 3) and five corresponding output lines ('array elecemnt is : 5' through 'array elecemnt is : 3'). A dashed line separates the output from the status bar at the bottom, which reads 'Process exited after 7.269 seconds with return value 22'.

I20. . Write a program to enter a ten elements using Array and find out the to count the total number of odd and even numbers

➔ Program

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,odd=0,even=0,arr[10];
    printf("Enter Array Elements : ");
    for(i=0;i<=9;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<=9;i++)
    {
        printf("Elements of array is : %d\n",arr[i]);
    }
}
```

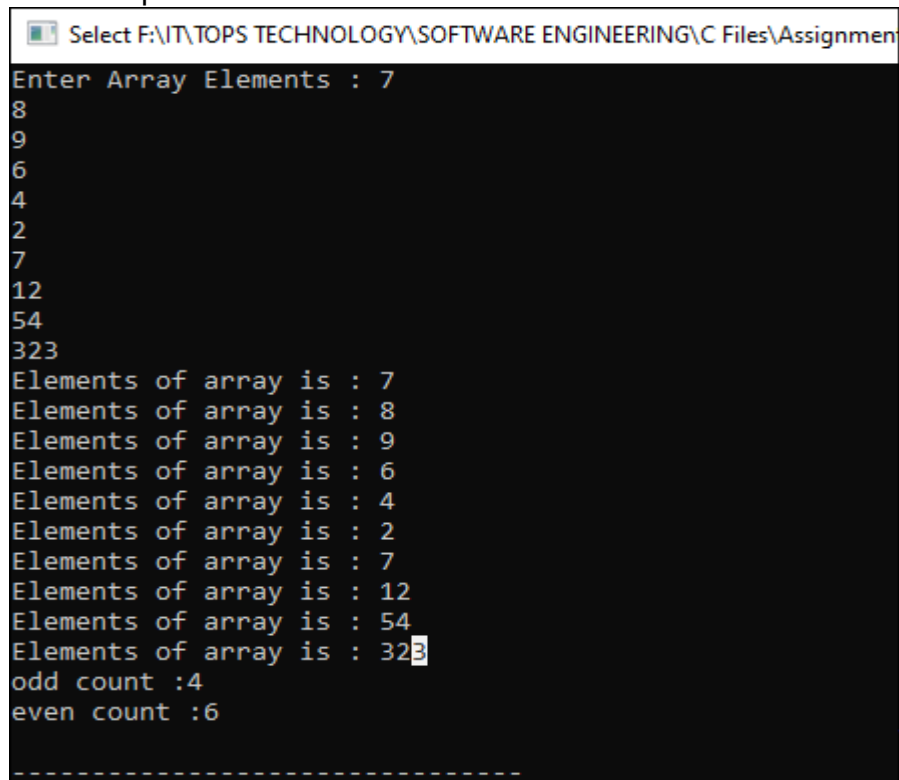


```

}
for(i=0;i<=9;i++)
{
if(arr[i]%2==0)
even++;
else
odd++;
}
printf("odd count :%d\n",odd);
printf("even count :%d\n",even);
}

```

➔ Output



The screenshot shows a Windows command prompt window titled "Select F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment". The program prompts the user to "Enter Array Elements : 7". The user enters the following sequence of numbers: 8, 9, 6, 4, 2, 7, 12, 54, 323. The program then displays each element of the array individually, followed by the total count of odd and even numbers. The output is as follows:

```

Enter Array Elements : 7
8
9
6
4
2
7
12
54
323
Elements of array is : 7
Elements of array is : 8
Elements of array is : 9
Elements of array is : 6
Elements of array is : 4
Elements of array is : 2
Elements of array is : 7
Elements of array is : 12
Elements of array is : 54
Elements of array is : 323
odd count :4
even count :6

```

A1. Write a program to enter a ten elements using Array and make a summation of the numbers and average of summation

➔ Input

```

#include<stdio.h>
#include<conio.h>
void main()
{
    int i,k = 0,arr[9];
    float av,sum;
    printf("Enter Array :\n");
    for(i=0;i<=9;i++)
    {
        scanf("%d",&arr[i]);
        printf("Array element is : %d\n",arr[i]);
        sum = k + arr[i];
    }
}

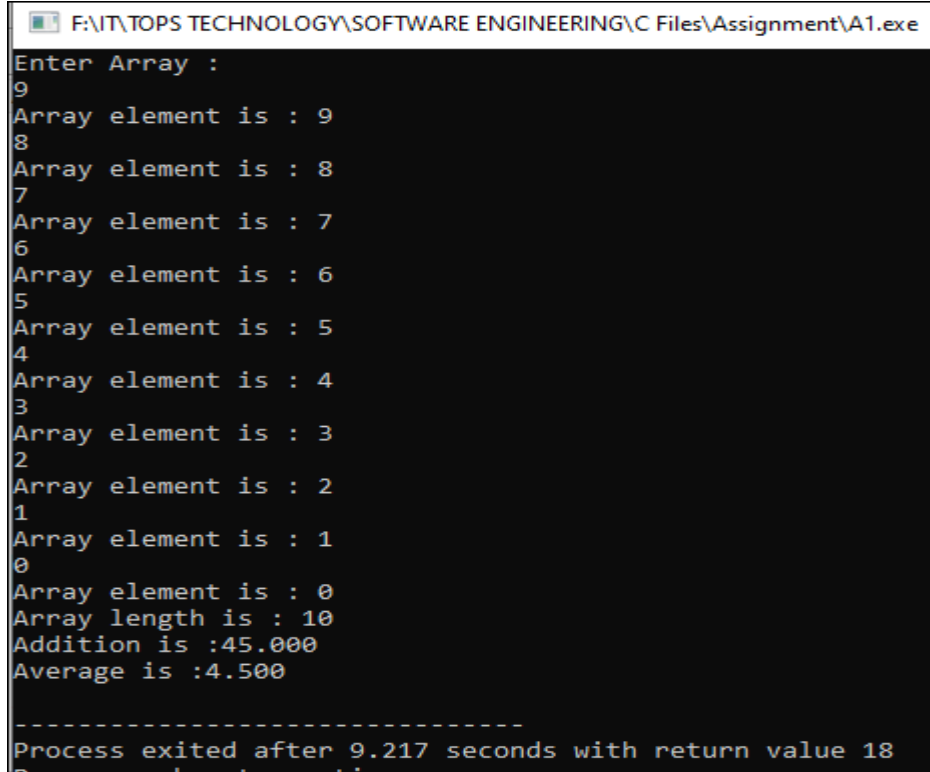
```

```

        k = sum;
    }
    printf("Array length is : %d \n",i);
    av = (sum/i);
    printf("Addition is :%0.3f\n",sum);
    printf("Average is :%0.3f\n",av);
}

```

→**Output**



The screenshot shows a Windows command prompt window titled "F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A1.exe". The program prompts the user to "Enter Array :". The user enters the numbers 9, 8, 7, 6, 5, 4, 3, 2, 1, and 0, each followed by the prompt "Array element is :". The program then outputs "Array length is : 10", "Addition is :45.000", and "Average is :4.500". At the bottom, it shows "Process exited after 9.217 seconds with return value 18".

```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A1.exe
Enter Array :
9
Array element is : 9
8
Array element is : 8
7
Array element is : 7
6
Array element is : 6
5
Array element is : 5
4
Array element is : 4
3
Array element is : 3
2
Array element is : 2
1
Array element is : 1
0
Array element is : 0
Array length is : 10
Addition is :45.000
Average is :4.500
-----
Process exited after 9.217 seconds with return value 18
Press any key to continue

```

A2. Write a program to find out the max number from given 10 elements of array.

→**Input**

```

#include<stdio.h>
#include<conio.h>
void main()
{
    int i;
    int k = 0;
    printf("Enter Array :\n");
    for(i=0;i<10;i++)
    {
        int a[i];
        scanf("%d",&a[i]);
        printf("Array element is : %d\n",a[i]);
        if(k<a[i])
        {
            k=a[i];
        }
    }
}

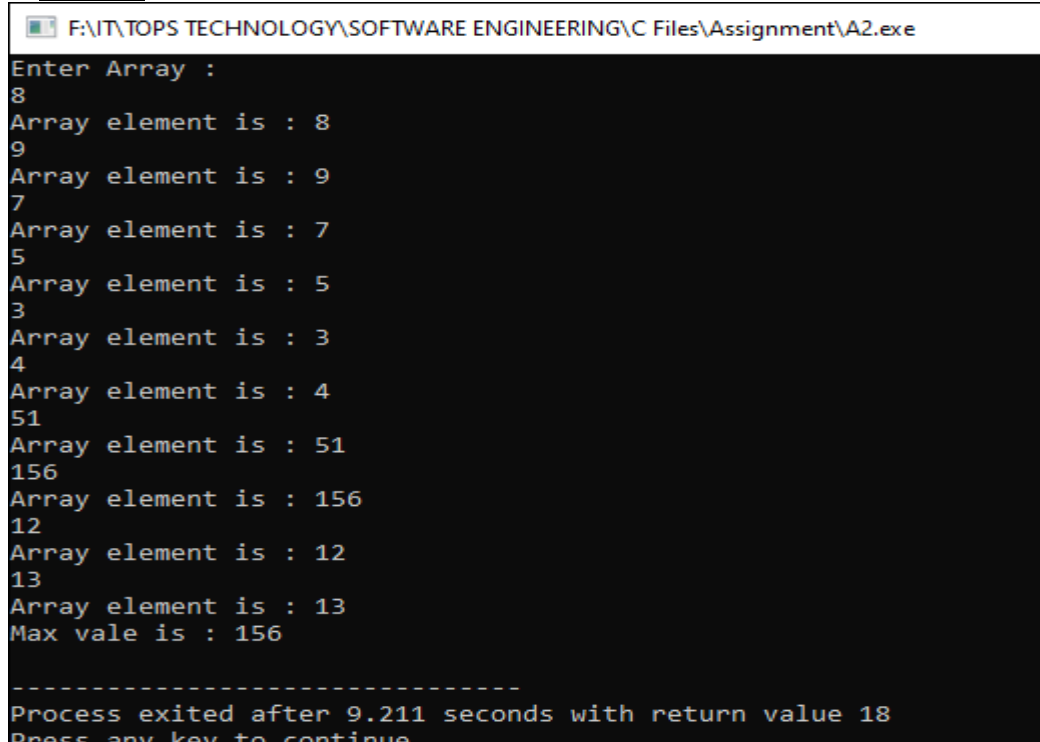
```

```

    }
    printf("Max vale is : %d\n",k);
}

```

### →Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A2.exe
Enter Array :
8
Array element is : 8
9
Array element is : 9
7
Array element is : 7
5
Array element is : 5
3
Array element is : 3
4
Array element is : 4
51
Array element is : 51
156
Array element is : 156
12
Array element is : 12
13
Array element is : 13
Max vale is : 156

-----
Process exited after 9.211 seconds with return value 18
Press any key to continue

```

A3. Write a program to sort the array of 5 elements

### →Input

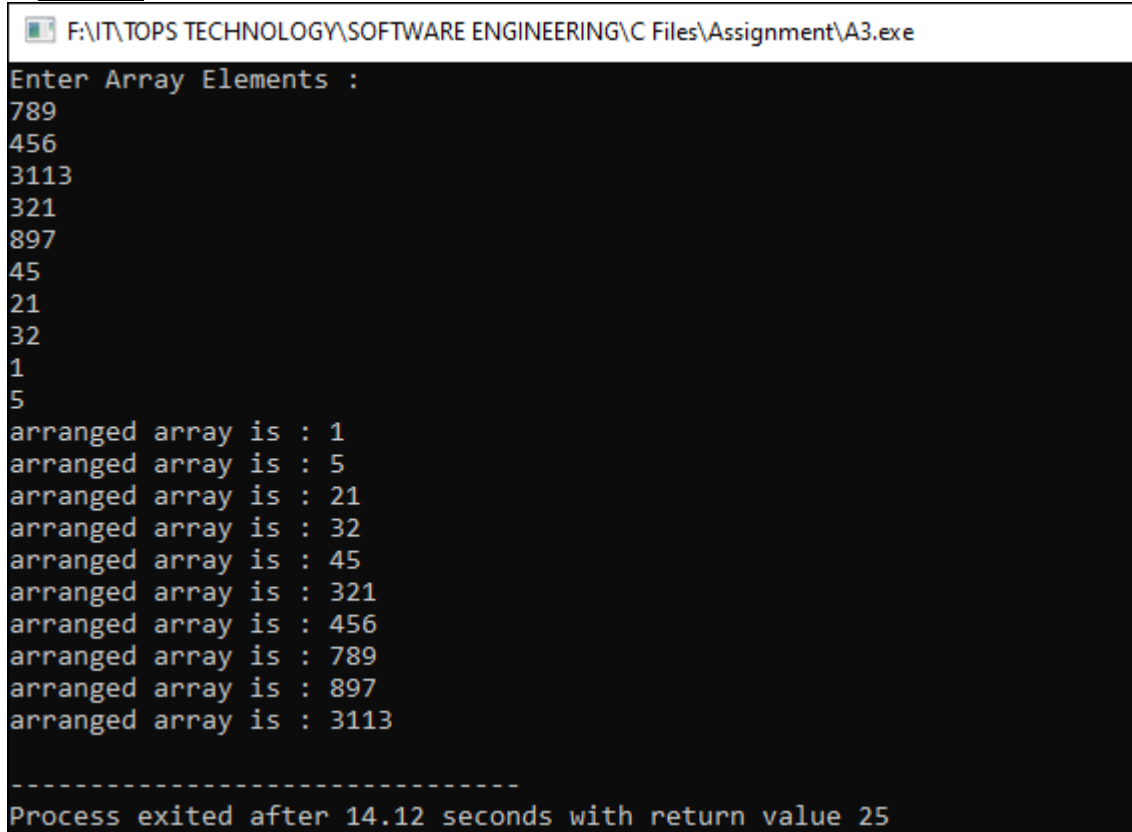
```

#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k=0,a[50];
    printf("Enter Array Elements :\n");
    for(i=0;i<10;i++)
    {
        scanf("%d",&a[i]);
    }
    for(i=0;i<10;i++)
    {
        for(j=i+1;j<10;j++)
        {
            if(a[i]>a[j])
            {
                k = a[i];
                a[i] = a[j];
                a[j] = k;
            }
        }
    }
}

```

```
for(i=0;i<10;i++)
{
    printf("arranged array is : %d\n",a[i]);
}
```

→Output



The screenshot shows a Windows command prompt window titled "F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A3.exe". The program prompts the user to "Enter Array Elements :". The user enters the following numbers: 789, 456, 3113, 321, 897, 45, 21, 32, 1, 5. The program then outputs the sorted array elements in ascending order: 1, 5, 21, 32, 45, 321, 456, 789, 897, 3113. The window concludes with the message "Process exited after 14.12 seconds with return value 25".

```
Enter Array Elements :
789
456
3113
321
897
45
21
32
1
5
arranged array is : 1
arranged array is : 5
arranged array is : 21
arranged array is : 32
arranged array is : 45
arranged array is : 321
arranged array is : 456
arranged array is : 789
arranged array is : 897
arranged array is : 3113
-----
Process exited after 14.12 seconds with return value 25
```

A4. Write a program to find out the second smallest number from the array.

→Input

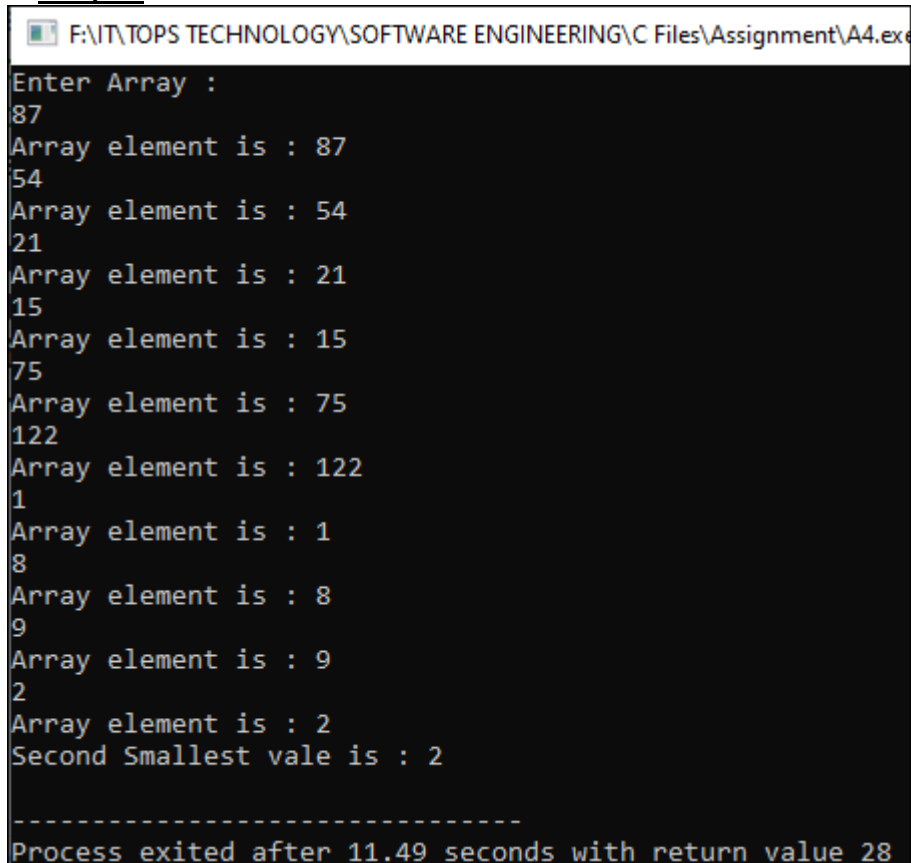
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,small,s_small;
    int a[100];
    printf("Enter Array : \n");
    for(i=0;i<10;i++)
    {
        scanf("%d",&a[i]);
        printf("Array element is : %d\n",a[i]);
        if(a[0]<a[1])
        {
            small = a[0];
            s_small = a[1];
        }
    }
}
```

```

    }
    else{
        small = a[1];
        s_small = a[0];
    }
}
for(i=2;i<10;i++)
{
    if(small>a[i])
    {
        s_small = small;
        small = a[i];
    }
    else if(s_small>a[i])
    {
        s_small = a[i];
    }
}
printf("Second Smallest vale is : %d\n",s_small);
}

```

### →Output



The screenshot shows a Windows command prompt window titled "F:\T\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A4.exe". The program prompts the user to "Enter Array :" and then reads 10 integers: 87, 54, 21, 15, 75, 122, 1, 8, 9, and 2. It then outputs "Second Smallest vale is : 2". At the bottom, it shows "Process exited after 11.49 seconds with return value 28".

```

F:\T\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A4.exe
Enter Array :
87
Array element is : 87
54
Array element is : 54
21
Array element is : 21
15
Array element is : 15
75
Array element is : 75
122
Array element is : 122
1
Array element is : 1
8
Array element is : 8
9
Array element is : 9
2
Array element is : 2
Second Smallest vale is : 2
-----
Process exited after 11.49 seconds with return value 28

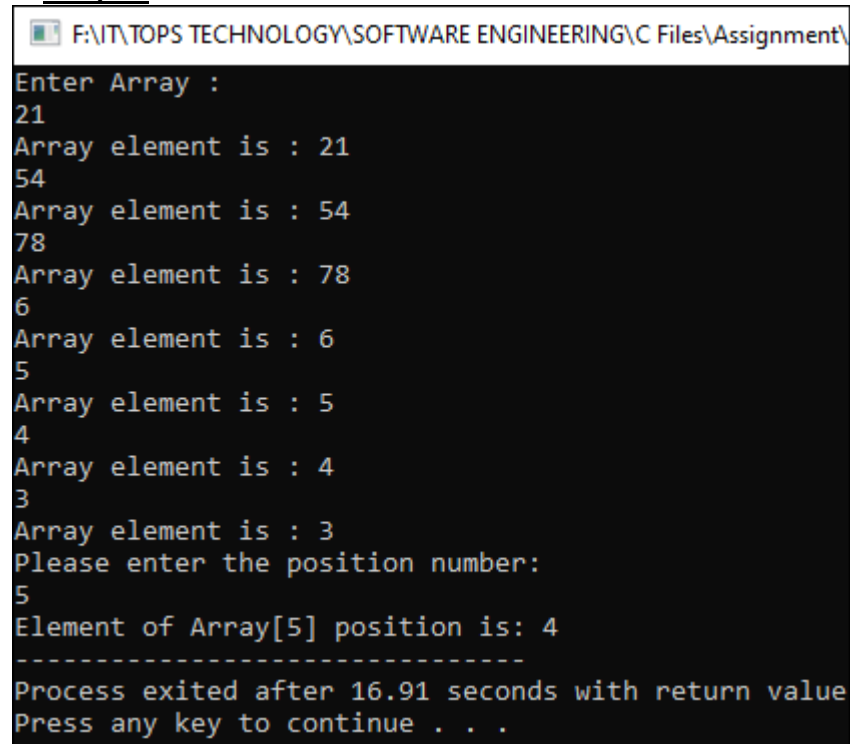
```

A5. Write a Program of find the element of given position from the array

→**Input**

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,k,arr[9];
    float av,sum;
    printf("Enter Array :\n");
    for(i=0;i<=6;i++)
    {
        scanf("%d",&arr[i]);
        printf("Array element is : %d\n",arr[i]);
    }
    printf("Please enter the position number: \n");
    scanf("%d",&k);
    if(i>k)
    {
        printf("Element of Array[%d] position is: %d ",k,arr[k]);
    }
    else{
        printf("Error!");
    }
}
```

→**Output**



The screenshot shows a Windows command prompt window with the title bar "F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\". The program execution is as follows:

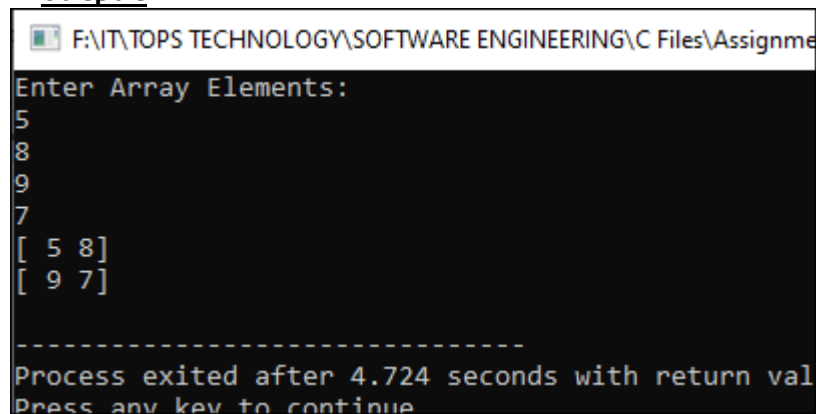
```
Enter Array :
21
Array element is : 21
54
Array element is : 54
78
Array element is : 78
6
Array element is : 6
5
Array element is : 5
4
Array element is : 4
3
Array element is : 3
Please enter the position number:
5
Element of Array[5] position is: 4
-----
Process exited after 16.91 seconds with return value
Press any key to continue . . .
```

A6. Write a program to print the Matrix using 2-D Array

→Input

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,a[2][2];
    printf("Enter Array Elements: \n");
    for(i=0;i<2;i++)
    {
        for(j=0;j<2;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    for(i=0;i<2;i++)
    {
        printf("[");
        for(j=0;j<2;j++)
        {
            printf(" %d",a[i][j]);
        }
        printf("]\n");
    }
}
```

→Output

A screenshot of a Windows command prompt window. The title bar shows the file path: F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignme. The prompt displays the text "Enter Array Elements:" followed by four lines of input: 5, 8, 9, and 7. Below the input, the program prints the matrix in a 2x2 format: [ 5 8] and [ 9 7]. At the bottom, it shows "Process exited after 4.724 seconds with return val" and "Press any key to continue".

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignme
Enter Array Elements:
5
8
9
7
[ 5 8]
[ 9 7]
-----
Process exited after 4.724 seconds with return val
Press any key to continue
```

A7. Write a program of two make Addition of two matrix using 2-D Array.

→Input

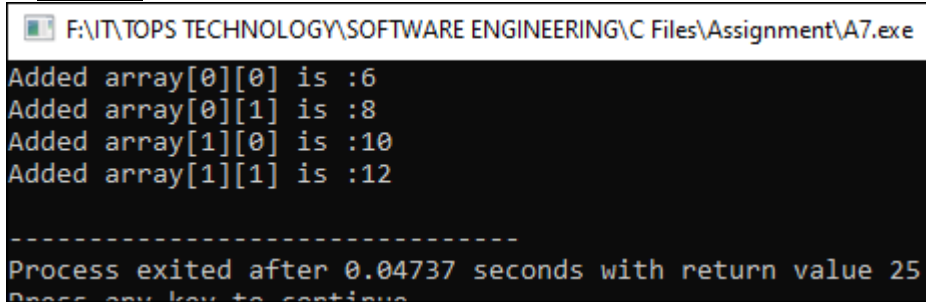
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,a[2][2] = {{1,2},{3,4}};
    int m,k,b[2][2] = {{5,6},{7,8}};
    int sum[2][2];
    for(i=0;i<2;i++)
```

```

    {
        for(j=0;j<2;j++)
        {
            sum[i][j] = a[i][j] + b[i][j];
            printf("Added array[%d][%d] is
:~d\n",i,j,sum[i][j]);
        }
    }
}

```

### →Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A7.exe
Added array[0][0] is :6
Added array[0][1] is :8
Added array[1][0] is :10
Added array[1][1] is :12
-----
Process exited after 0.04737 seconds with return value 25
Press any key to continue

```

A8. Write a program of two make Subtraction of two matrix using 2-D Array.

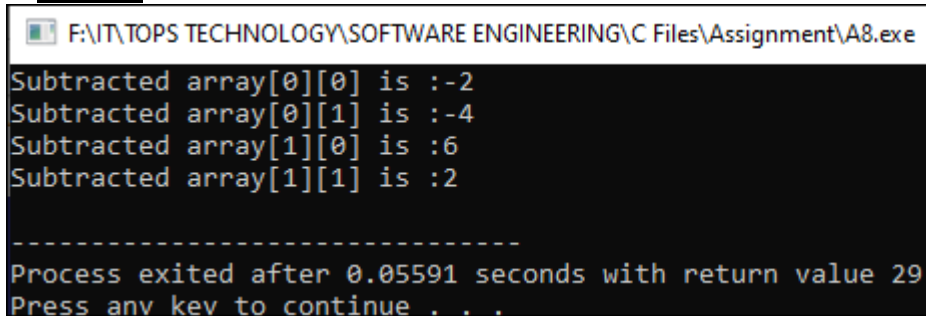
### →Input

```

#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,a[2][2] = {{2,2},{13,10}};
    int m,k,b[2][2] = {{4,6},{7,8}};
    int sum[2][2];
    for(i=0;i<2;i++)
    {
        for(j=0;j<2;j++)
        {
            sum[i][j] = a[i][j] - b[i][j];
            printf("Subtracted array[%d][%d] is
:~d\n",i,j,sum[i][j]);
        }
    }
}

```

### →Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A8.exe
Subtracted array[0][0] is :-2
Subtracted array[0][1] is :-4
Subtracted array[1][0] is :6
Subtracted array[1][1] is :2
-----
Process exited after 0.05591 seconds with return value 29
Press any key to continue

```

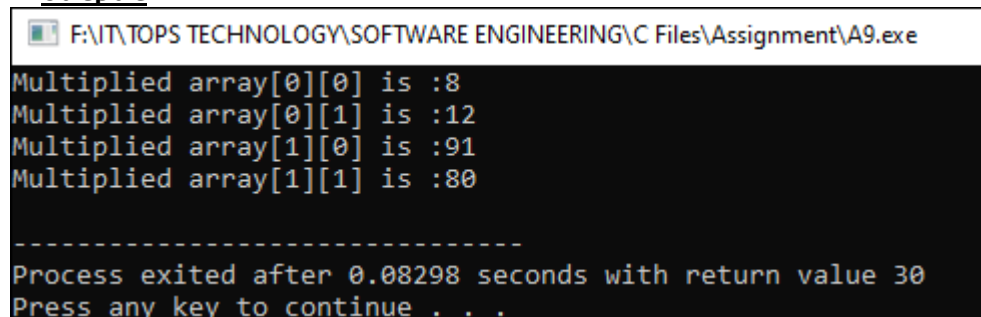


A9. Write a program of Multiplication make Subtraction of two matrix using 2-D Array.

→**Input**

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,a[2][2] = {{2,2},{13,10}};
    int m,k,b[2][2] = {{4,6},{7,8}};
    int sum[2][2];
    for(i=0;i<2;i++)
    {
        for(j=0;j<2;j++)
        {
            sum[i][j] = a[i][j] * b[i][j];
            printf("Multiplied array[%d][%d] is
: %d\n",i,j,sum[i][j]);
        }
    }
}
```

→**Output**



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A9.exe
Multiplied array[0][0] is :8
Multiplied array[0][1] is :12
Multiplied array[1][0] is :91
Multiplied array[1][1] is :80
-----
Process exited after 0.08298 seconds with return value 30
Press any key to continue . . .
```

A10. Write a program to find out the Max number from given Matrix

→**Input**

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,k,a[2][2];
    printf("Enter Array Elements: \n");

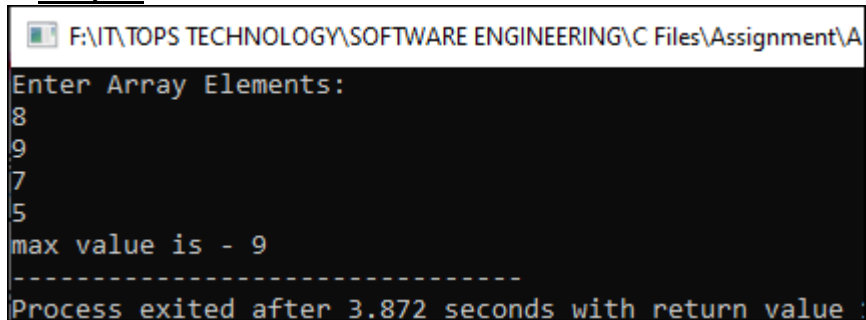
    for(i=0;i<2;i++)
    {
        for(j=0;j<2;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    k = a[0][0];
    for(i=0;i<2;i++)
```

```

    {
        for(j=0;j<2;j++)
        {
            if(a[i][j]>k)
            {
                k = a[i][j];
            }
        }
    }
    printf("max value is - %d",k);
}

```

→**Output**



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A
Enter Array Elements:
8
9
7
5
max value is - 9
-----
Process exited after 3.872 seconds with return value :

```

A11. Write a program to convert the string from uppercase to lowercase and vice versa

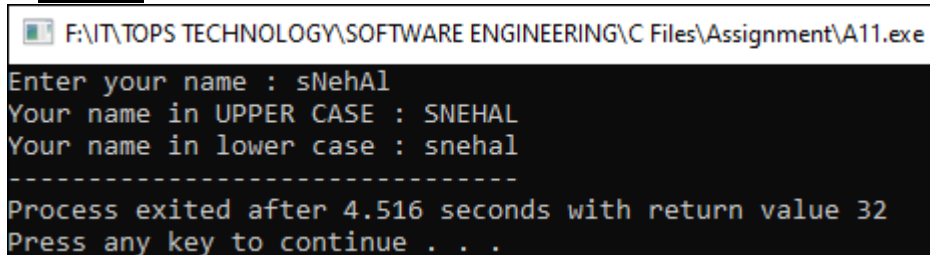
→**Input**

```

#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    char a[10];
    printf("Enter your name : ");
    scanf("%s",&a);
   strupr(a);
    printf("Your name in UPPER CASE : %s\n",a);
    strlwr(a);
    printf("Your name in lower case : %s",a);
}

```

→**Output**



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A11.exe
Enter your name : sNehAl
Your name in UPPER CASE : SNEHAL
Your name in lower case : snehal
-----
Process exited after 4.516 seconds with return value 32
Press any key to continue . . .

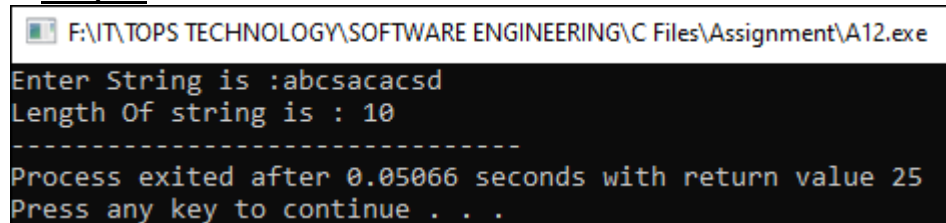
```

A12. Write a program to find out the length of given string without using string function

→Input

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    int i,len=0;
    char name[] = "abcsacacsd";
    printf("Enter String is :%s",name);
    for(i=0;name[i]!=0;i++)
    {
        len++;
    }
    printf("\nLength Of string is : %d",len);
}
```

→Output



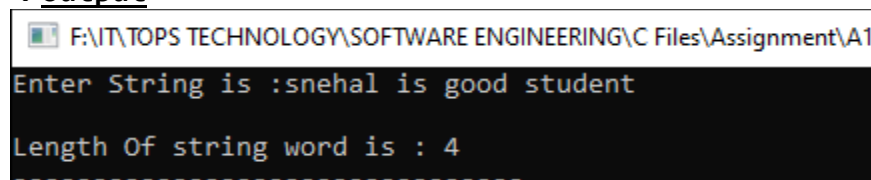
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A12.exe
Enter String is :abcsacacsd
Length Of string is : 10
-----
Process exited after 0.05066 seconds with return value 25
Press any key to continue . . .
```

A13. write a program to count the total number of word from given string without using string function

→Input

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    int i,len;
    char name[10];
    printf("Enter String is :%s",name);
    gets(name);
    for(i=0;name[i]!=0;i++)
    {
        if(name[i] == ' ' || name[i] == '\n' || name[i] == '\t')
            len++;
    }
    printf("\nLength Of string word is : %d",len);
}
```

→Output



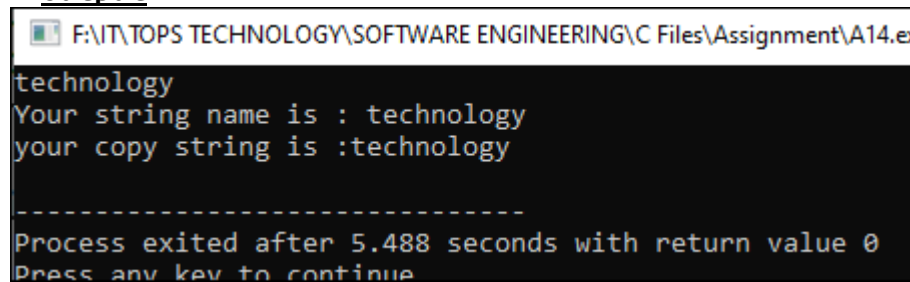
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A13.exe
Enter String is :snehal is good student
Length Of string word is : 4
-----
```

A14. Write a program to copy string from one string to another string without using string function

→Input

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    int i;
    char name[10],cop[10];
    gets(name);
    printf("Your string name is : ");
    puts(name);
    for(i=0;name[i]!=0;i++)
    {
        cop[i] = name[i];
    }
    printf("your copy string is :");
    puts(cop);
}
```

→Output



The screenshot shows a Windows command prompt window with the title bar "F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A14.e". The output of the program is as follows:

```
technology
Your string name is : technology
your copy string is :technology
-----
Process exited after 5.488 seconds with return value 0
Press any key to continue
```

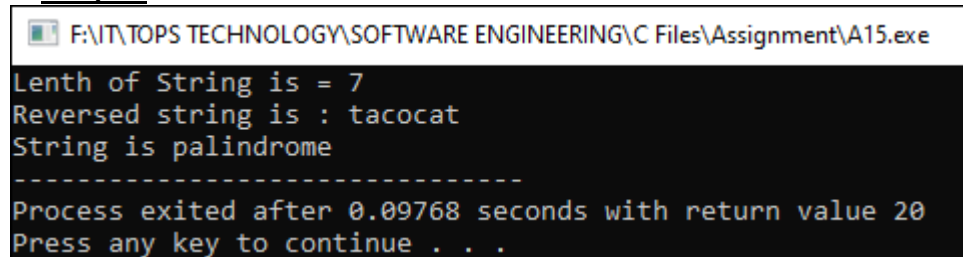
A15. Write a program to make string reverse and check the given string is palindrome or not without using string function

→Input

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    char temp,s2[200],s1[10] = "tacocat";
    int a =strlen(s1);
    printf("Lenth of String is = %d\n",a);
    int i,j=a-1;
    for(i=0;i<j;i++)
    {
        temp = s1[i];
        s1[i] = s1[j];
        s1[j] = temp;
        j--;
    }
}
```

```
printf("Reversed string is : %s\n",s1);
i =0;
j = 6;
if(s1[i]==s1[j]){
    printf("String is palindrome");
}
else{
    printf("String is not palindrome");
}
}
```

→**Output**



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A15.exe
Lenth of String is = 7
Reversed string is : tacocat
String is palindrome
-----
Process exited after 0.09768 seconds with return value 20
Press any key to continue . . .
```

A16. Write a program co concatenate the two string without using string function

→**Input**

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    int i,j=0;
    char s1[10],s2[10],s3[200];
    printf("Enter Two Strings\n");
    gets(s1);
    gets(s2);
    printf("Two strings are %s and %s\n",s1,s2);
    for(i=0;s1[i]!=0;i++)
    {
        s3[j] = s1[i];
        j++;
    }
    for(i=0;s2[i]!=0;i++)
    {
        s3[j] = s2[i];
        j++;
    }
    s3[j] = '\0';
    printf("concatenated string is :");
    puts(s3);
}
```

→**Output**

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A16.exe
Enter Two Strings
hello
woldr
Two strings are hello and woldr
concatenated string is :helloworld
-----
Process exited after 4.587 seconds with return value 0
Press any key to continue . . .
```

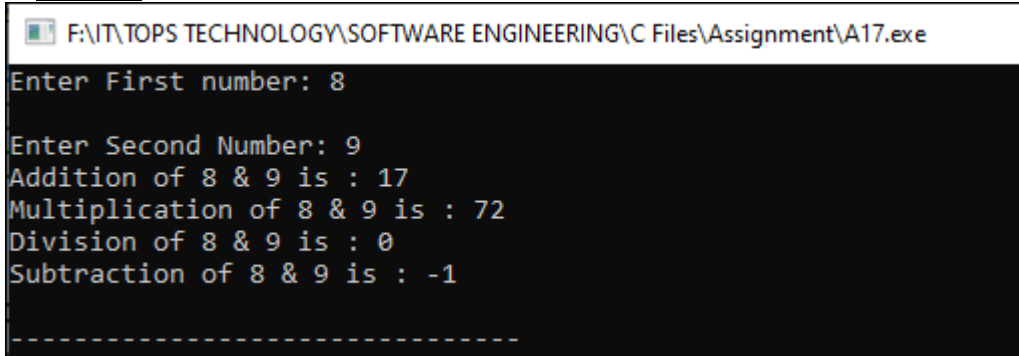
A17. Write a program to perform addition, subtraction, multiplication and division of two numbers using Function

→**Input**

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n1,n2;
    printf("Enter First number: ");
    scanf("%d",&n1);
    printf("\nEnter Second Number: ");
    scanf("%d",&n2);
    printf("Addition of %d & %d is : %d\n",n1,n2,Add(n1,n2));
    printf("Multiplication of %d & %d is : 
%d\n",n1,n2,Mul(n1,n2));
    printf("Division of %d & %d is : %d\n",n1,n2,Div(n1,n2));
    printf("Subtraction of %d & %d is : %d\n",n1,n2,Sub(n1,n2));
}
int Add(int a, int b)
{
    int result;
    result = a + b;
    return result;
}
int Mul(int a, int b)
{
    int result;
    result = a * b;
    return result;
}
int Div(int a, int b)
{
    int result;
    result = a / b;
    return result;
}
int Sub(int a, int b)
```

```
{
    int result;
    result = a - b;
    return result;
}
```

→Output



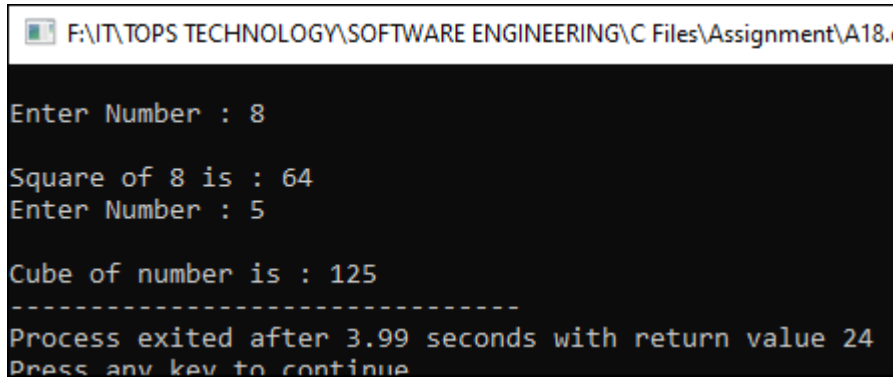
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A17.exe
Enter First number: 8
Enter Second Number: 9
Addition of 8 & 9 is : 17
Multiplication of 8 & 9 is : 72
Division of 8 & 9 is : 0
Subtraction of 8 & 9 is : -1
-----
```

A18. Write a program to find out the Square and cube of given number using function

→Input

```
#include<stdio.h>
#include<conio.h>
int square();
void main()
{
    square();
    printf("\nCube of number is : %d",Cube());
}
int square()
{
    int n1,sqr;
    printf("\nEnter Number : ");
    scanf("%d",&n1);
    sqr = n1*n1;
    printf("\nSquare of %d is : %d",n1,sqr);
}
int Cube()
{
    int n1,cube;
    printf("\nEnter Number : ");
    scanf("%d",&n1);
    cube = n1*n1*n1;
    return cube;
}
```

→Output



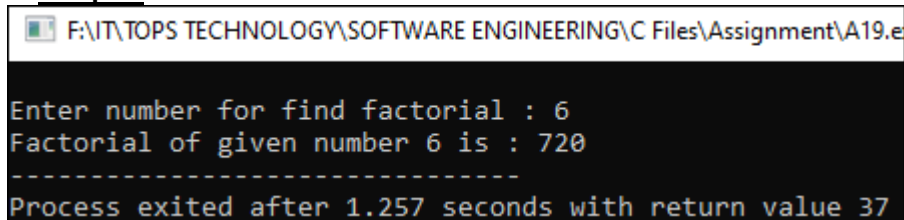
```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A18.e
Enter Number : 8
Square of 8 is : 64
Enter Number : 5
Cube of number is : 125
-----
Process exited after 3.99 seconds with return value 24
Press any key to continue
```

A19. Write a program to find out the factorial of given number using function

→Input

```
#include<stdio.h>
#include<conio.h>
int fact(int n);
void main()
{
    int a;
    printf("\nEnter number for find factorial : ");
    scanf("%d",&a);
    printf("Factorial of given number %d is : %d ",a,fact(a));
}
int fact(int n)
{
    int i,f;
    f=1;
    for(i=1;i<=n;i++)
    {
        f = f*i;
    }
    return f;
}
```

→Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A19.e
Enter number for find factorial : 6
Factorial of given number 6 is : 720
-----
Process exited after 1.257 seconds with return value 37
```

A20. Write a program to print the Fibonacci series using function

→Input

```
#include<stdio.h>
#include<conio.h>
void series();
void main()
{
```



```

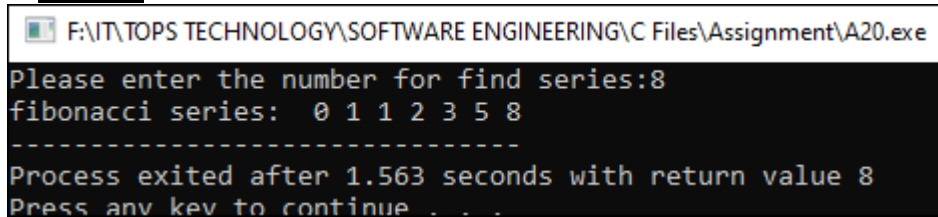
        series();
    }
    void series()
    {

        int i=0,j=0,fibo,number;
        printf("Please enter the number for find series:");
        scanf("%d",&number);

        printf("fibonacci series: ");
        for(i=0; i<=number ;i++)
        {
            printf(" %d",i);
            fibo = i+j;
            i=j;
            j=fibo;
        }
    }
}

```

### →Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A20.exe
Please enter the number for find series:8
fibonacci series:  0 1 1 2 3 5 8
-----
Process exited after 1.563 seconds with return value 8
Press any key to continue . . .

```

A21. Write a program to find out the max number from given array using function

### →Input

```

#include<stdio.h>
#include<conio.h>
void Max_num();
void main()
{
    printf("Enter Array elements:\n");
    Max_num();
}
void Max_num()
{
    int i,j,a[3][3];
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    for(i=0;i<3;i++)
    {

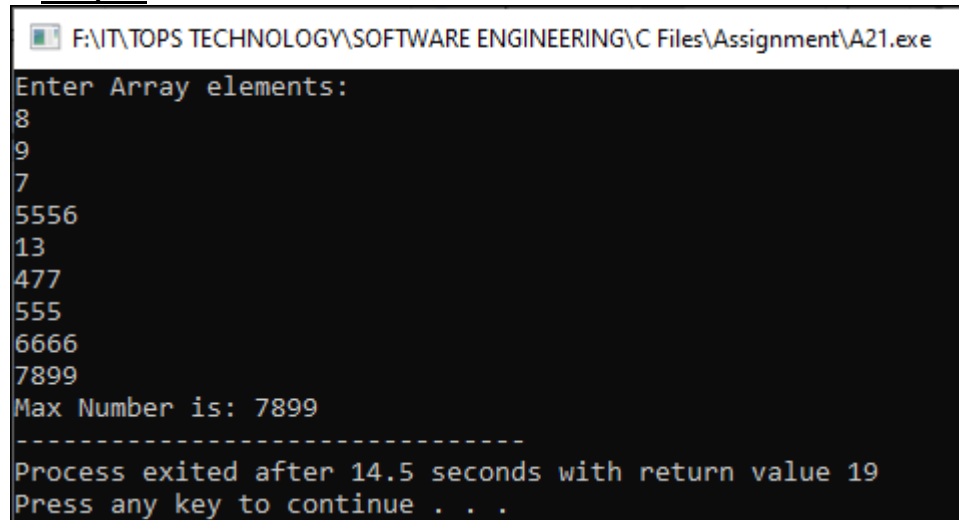
```

```

        for(j=0;j<3;j++)
        {
            if(a[i][j]>a[0][0])
            {
                a[0][0] = a[i][j];
            }
        }
    }
    printf("Max Number is: %d",a[0][0]);
}

```

→**Output**



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A21.exe
Enter Array elements:
8
9
7
5556
13
477
555
6666
7899
Max Number is: 7899
-----
Process exited after 14.5 seconds with return value 19
Press any key to continue . . .

```

A22. Write a program to print the string in reverse order using function

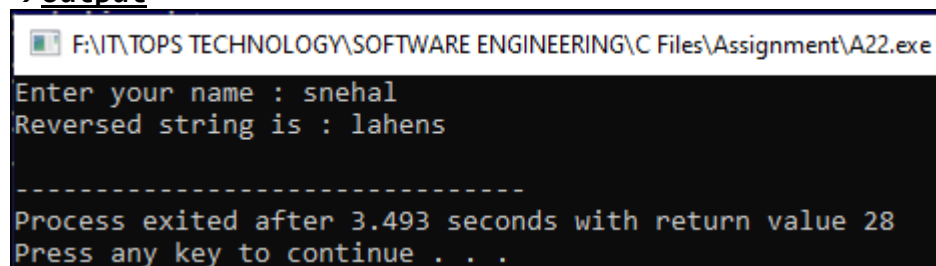
→**Input**

```

#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    char s1[100];
    printf("Enter your name : ");
    scanf("%s",&s1);
    strrev(s1);
    printf("Reversed string is : %s\n",s1);
}

```

→**Output**



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A22.exe
Enter your name : snehal
Reversed string is : lahens
-----
Process exited after 3.493 seconds with return value 28
Press any key to continue . . .

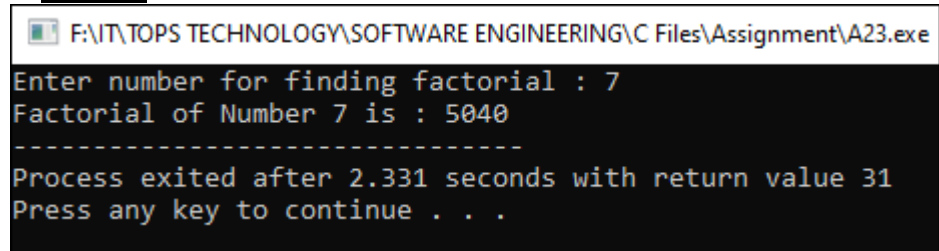
```

A23. Write a Program of Factorial using Recursive Function

→Input

```
#include<stdio.h>
#include<conio.h>
int fact(int number);
void main()
{
    int result,b;
    printf("Enter number for finding factorial : ");
    scanf("%d",&b);
    result = fact(b);
    printf("Factorial of Number %d is : %d",b,fact(b));
}
int fact(int number)
{
    {
        if(number == 1 && number ==0)
            return 1;
        }
    if(number>1)
    {
        return number * fact(number - 1);
    }
}
```

→Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A23.exe
Enter number for finding factorial : 7
Factorial of Number 7 is : 5040
-----
Process exited after 2.331 seconds with return value 31
Press any key to continue . . .
```

A24. Write a Program of Print a number and check the number is palindrome or not using recursive Function

→Input

```
#include<stdio.h>
#include<conio.h>
int reverse(int num);
void main()
{
    int num1;
    printf("\nEnter a number = ");
    scanf("%d",&num1);

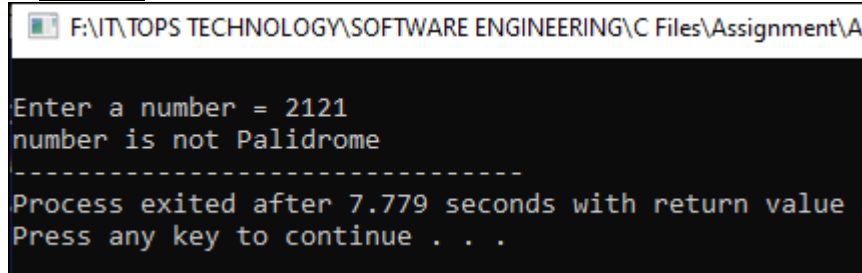
    if(palindrome(num1) == 0)
    {
        printf("number is Palidrome");
    }
}
```

```

        else
        {
            printf("number is not Palidrome");
        }
    }
    int reverse(int num)
    {
        int rev =0;
        while(num!=0)
        {
            rev = rev*10 + num%10;
            num = num/10;
        }
        return rev;
    }
    int palindrome(int num)
    {
        if(reverse(num) == num)
            return 0;
        else
            return 1;
    }

```

### →Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A
Enter a number = 2121
number is not Palidrome
-----
Process exited after 7.779 seconds with return value
Press any key to continue . . .

```

A25. Write a Program of Make a string reverse using recursive Function.

### → Program

```

#include<stdio.h>
#include<conio.h>
#include<string.h>
char reverse(char str[50]);
void main()
{
    char str1[40];
    reverse(str1);
}
char reverse(char str[20])
{
    printf("Enter your string : ");
    gets(str);
}

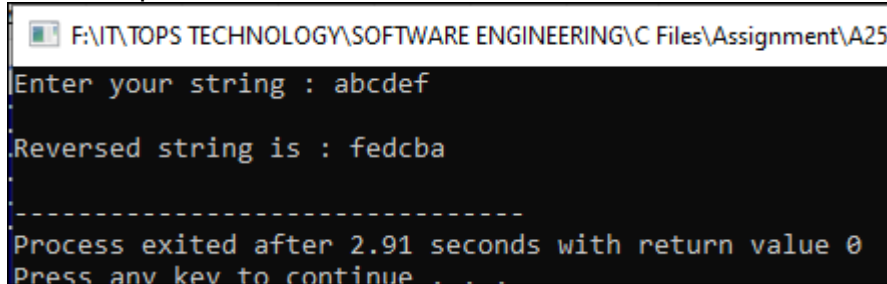
```

```

    strrev(str);
    printf("\nReversed string is : ");
    puts(str);
}

```

➔ Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A25
Enter your string : abcdef
Reversed string is : fedcba
-----
Process exited after 2.91 seconds with return value 0
Press any key to continue :

```

A26. Write a program of structure employee that provides the following information

-print and display empno,empname,address and age

➔ Program

```

#include<stdio.h>
#include<conio.h>
#include<string.h>
struct employee{
    char name[20];
    int emID;
    float slry;
};
void main()
{
    struct employee emp;
    printf("\nEnter Employee Name :");
    scanf("%s",&emp.name);
    printf("\nEnter Employee ID :");
    scanf("%d",&emp.emID);
    printf("\nEnter Employee Salary :");
    scanf("%f",&emp.slry);
    printf("\n-----Enter deatails are as below-----\n");
    printf("\nEmployee Name is : %s",emp.name);
    printf("\nEmployee ID is : %d",emp.emID);
    printf("\nEmployee Salary is : %.2f",emp.slry);
    return 0;
}

```

➔ Output

```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A26.exe

Enter Employee Name :snehal
Enter Employee ID :1080
Enter Employee Salary :205050
-----Enter deatails are as below-----
Employee Name is : snehal
Employee ID is : 1080
Employee Salary is : 205050.00
-----
Process exited after 16.42 seconds with return value 31
Press any key to continue . . .
```

A27. Write a program of structure for five employee that provides the following information

- print and display empno,empname,address and age
- ➔ Program is Upload in drive.

A28. Describe the structure student having rollno and marks of three subjects of five students.

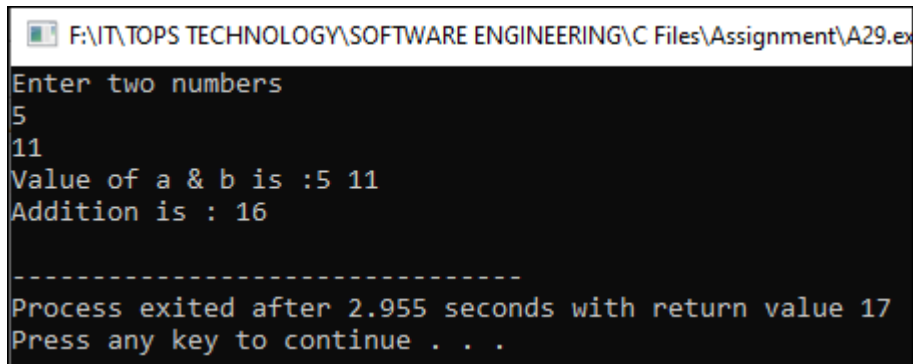
- Write a program to print all the information and total marks and percentage of each student.
- ➔ Program is Upload in drive.

A29. Write program to make an addition of two number using pointer

➔ Program

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a,b,c;
    int *ptr a = &a;
    int *ptr b = &b;
    int *sum = &c;
    printf("Enter two numbers\n");
    scanf("%d %d",&a,&b);
    printf("Value of a & b is :%d %d\n",*ptr a,*ptr b);
    *sum = *ptr a + *ptr b;
    printf("Addition is : %d\n",*sum);
}
```

➔ Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A29.ex
Enter two numbers
5
11
Value of a & b is :5 11
Addition is : 16

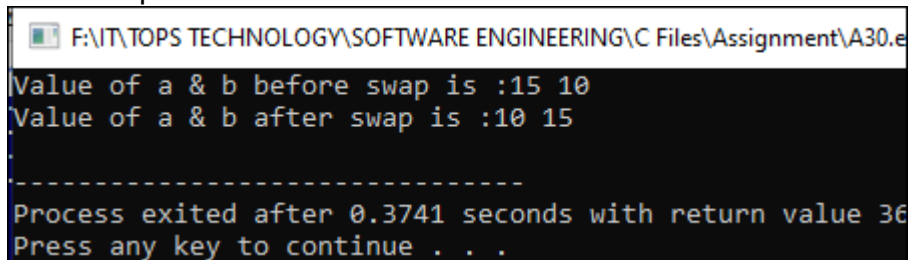
-----
Process exited after 2.955 seconds with return value 17
Press any key to continue . . .
```

A30. Write a program to swap the two numbers without using third variable using pointer

→ Program

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a = 15,b = 10;
    int *ptr a = &a;
    int *ptr b = &b;
    printf("Value of a & b before swap is :%d %d\n",*ptr a,*ptr b);
    *ptr a = *ptr a + *ptr b;
    *ptr b = *ptr a - *ptr b;
    *ptr a = *ptr a - *ptr b;
    printf("Value of a & b after swap is :%d %d\n",*ptr a,*ptr b);
}
```

→ Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A30.e
Value of a & b before swap is :15 10
Value of a & b after swap is :10 15

-----
Process exited after 0.3741 seconds with return value 36
Press any key to continue . . .
```

A31. Write a program to concatenate the two strings using pointer.

→ Program

```
#include<stdio.h>
#include<conio.h>
void main()
{
    char a[100], b[100];

    printf("\nEnter the first string: ");
    gets(a);

    printf("\nEnter the second string : ");
    gets(b);
```

```

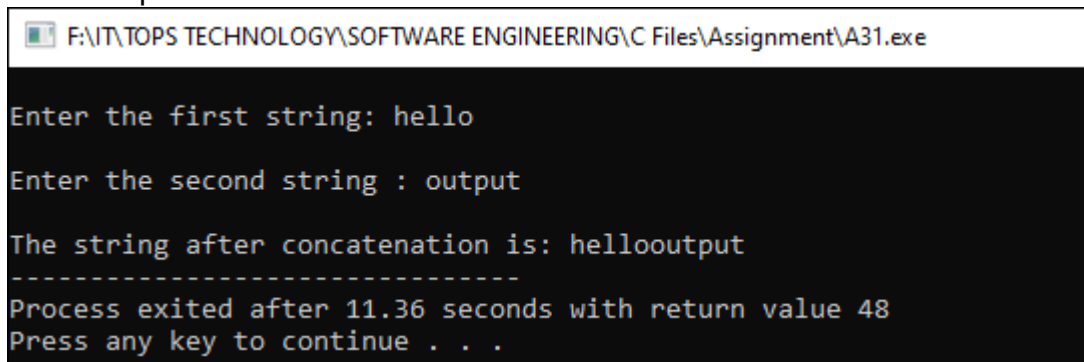
char *ptr a = a;
char *ptr b = b;

while(*ptr a)
{
    ptr a++;
}
while(*ptr b)
{
    *ptr a = *ptr b;
    ptr b++;
    ptr a++;
}
*ptr a = '\\0';

printf("\\n\\nThe string after concatenation is: %s ", a);
}

```

➔ Output



```

F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A31.exe

Enter the first string: hello
Enter the second string : output
The string after concatenation is: hellooutput
-----
Process exited after 11.36 seconds with return value 48
Press any key to continue . . .

```

A32. Write a program to sort the numbers using pointer and functions

➔ Program

```

#include<stdio.h>
#include<conio.h>
void sort(int n,int *ptr)
{
    int i,j,k=0;
    for(i=0;i<n;i++)
    {
        for(j=i+1;j<n;j++)
        {
            if(*(ptr + j) < *(ptr + i))
            {
                k = *(ptr + i);
                *(ptr + i) = *(ptr + j);
                *(ptr + j) = k;
            }
        }
    }
    for(i=0;i<n;i++)

```

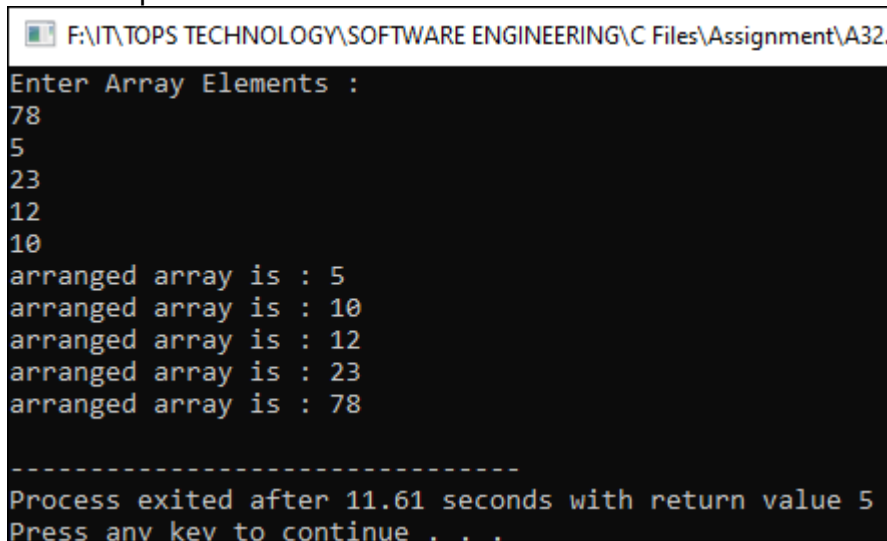


```

        {
            printf("\narranged array is : %d\n",*(ptr + i));
        }
    }
void main()
{
    int i,n=5,a[50];
    printf("Enter Array Elements :\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    sort(n,a);
}

```

➔ Output



The screenshot shows a Windows command prompt window with the title bar 'F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A32'. The program prompts 'Enter Array Elements :' and the user enters five numbers: 78, 5, 23, 12, and 10. The program then outputs the sorted array elements: 'arranged array is : 5', 'arranged array is : 10', 'arranged array is : 12', 'arranged array is : 23', and 'arranged array is : 78'. At the bottom, it shows 'Process exited after 11.61 seconds with return value 5' and 'Press any key to continue . . .'. The text in the screenshot is as follows:

```

Enter Array Elements :
78
5
23
12
10
arranged array is : 5
arranged array is : 10
arranged array is : 12
arranged array is : 23
arranged array is : 78
-----
Process exited after 11.61 seconds with return value 5
Press any key to continue . . .

```

A38. Write a program to swap the values of 2 variable using pointer, function and structure.

➔ Program

```

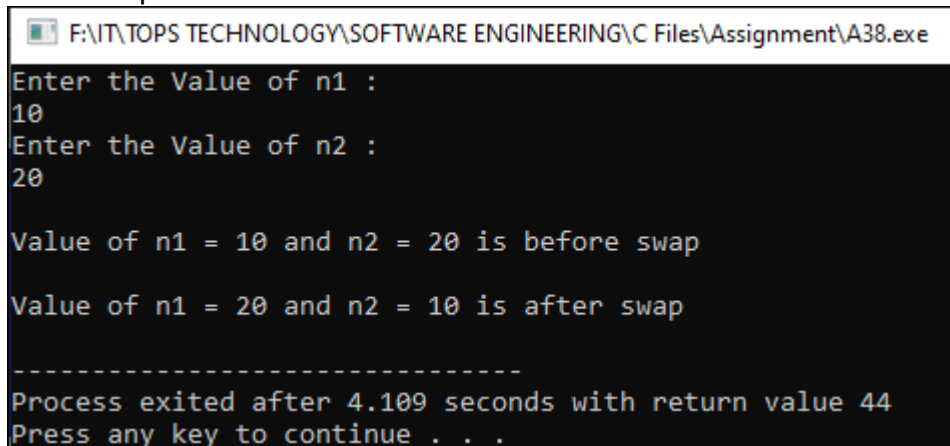
#include<stdio.h>
#include<conio.h>
struct swap{
    int n1;
    int n2;
    int temp;
};
void swap(int *a,int *b);
void main()
{
    struct swap num;
    printf("Enter the Value of n1 : \n");
    scanf("%d",&num.n1);
    printf("Enter the Value of n2 : \n");
    scanf("%d",&num.n2);
}

```

## Module- 3 [C Programming]

```
        printf("\nValue of n1 = %d and n2 = %d is before\n",num.n1,num.n2);
        swap(&num.n1,&num.n2);
        printf("\nValue of n1 = %d and n2 = %d is after\n",num.n1,num.n2);
    }
void swap(int *a,int *b)
{
    struct swap num;
    num.temp = *a;
    *a = *b;
    *b = num.temp;
}
```

➔ Output



```
F:\IT\TOPS TECHNOLOGY\SOFTWARE ENGINEERING\C Files\Assignment\A38.exe
Enter the Value of n1 :
10
Enter the Value of n2 :
20

Value of n1 = 10 and n2 = 20 is before swap
Value of n1 = 20 and n2 = 10 is after swap

-----
Process exited after 4.109 seconds with return value 44
Press any key to continue . . .
```