PRACTICAL FILE

OF

“Introduction to Programming Methodology using C ”

(13060112)

SGT UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY

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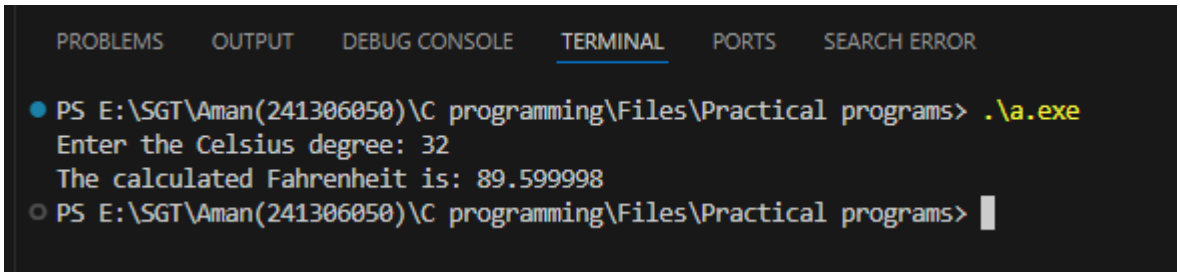
Program 1

Write a program to convert temperature from Celsius to Fahrenheit by taking input from the user.

```
#include<stdio.h>

int main() {

float c, f;

printf("Enter the Celsius degree: ");

scanf("%f", &c);

f = (c * 9.0 / 5.0) + 32.0;


printf("The calculated Fahrenheit is: %f\n", f);

return 0;

}
```

OUTPUT

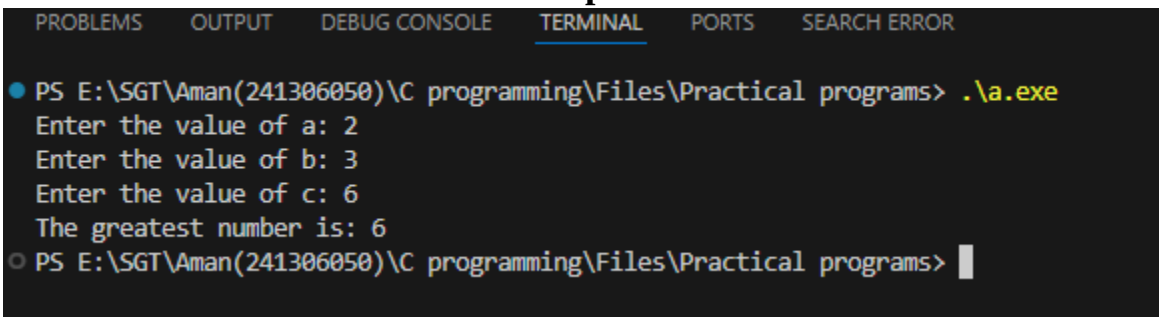


Program 2

Write a program to find the greatest number among 3 numbers given by the user.

```
#include <stdio.h>
int main() {
 int a, b, c;
printf("Enter the value of a: ");
scanf("%d", &a);
printf("Enter the value of b: ");
scanf("%d", &b);
printf("Enter the value of c: ");
scanf("%d", &c);
if (a >= b && a >= c) {
printf("The greatest number is: %d\n", a);
  }
else if (b >= a && b >= c) {
printf("The greatest number is: %d\n", b);
} else {
printf("The greatest number is: %d\n", c);
    }
  return 0;
}
```

Output

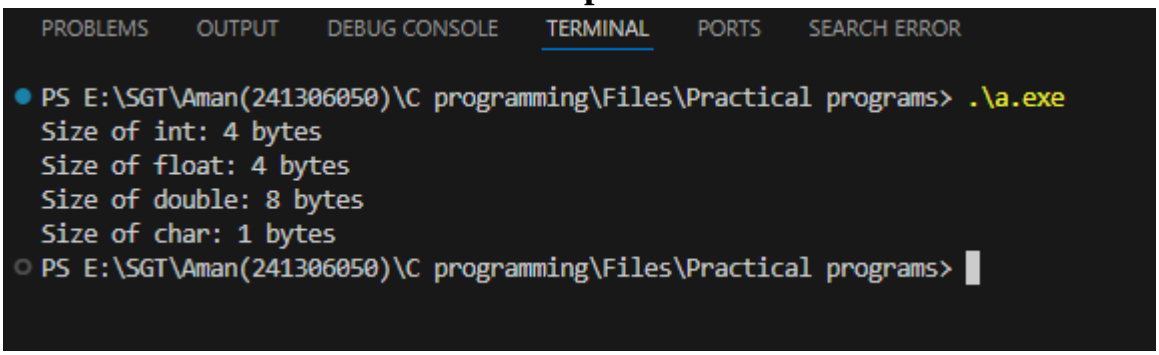


Program 3

C Program to Find the Size of int, float, double and char

```
#include <stdio.h>

int main() {
    printf("Size of int: %zu bytes\n", sizeof(int));

    printf("Size of float: %zu bytes\n", sizeof(float));

    printf("Size of double: %zu bytes\n", sizeof(double));

    printf("Size of char: %zu bytes\n", sizeof(char));

    return 0;
}
```

Output



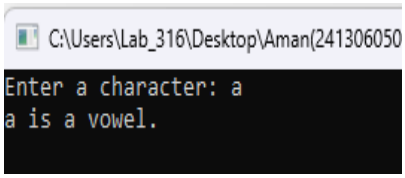
Program 4
C Program to Check Whether a Character is a Vowel or Consonant.

```
#include <stdio.h>
int main() {
   char ch;
   printf("Enter a character: ");
   scanf(" %c", &ch);

   if (isalpha(ch)) {

      char lowerCh = tolower(ch);
      if (lowerCh == 'a' || lowerCh == 'e' || lowerCh == 'i' || lowerCh == 'o' || lowerCh == 'u') {
         printf("%c is a vowel.\n", ch);
      } else {
         printf("%c is a consonant.\n", ch);
      }
```

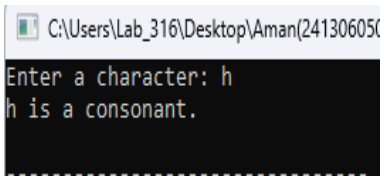
```
    } else {
        printf("%c is not an alphabetic character.\n", ch);
    }
    return 0;
}
```

Output .

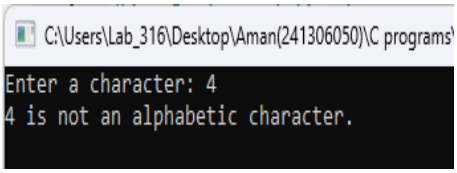
Case-1



Case-2



Case-3

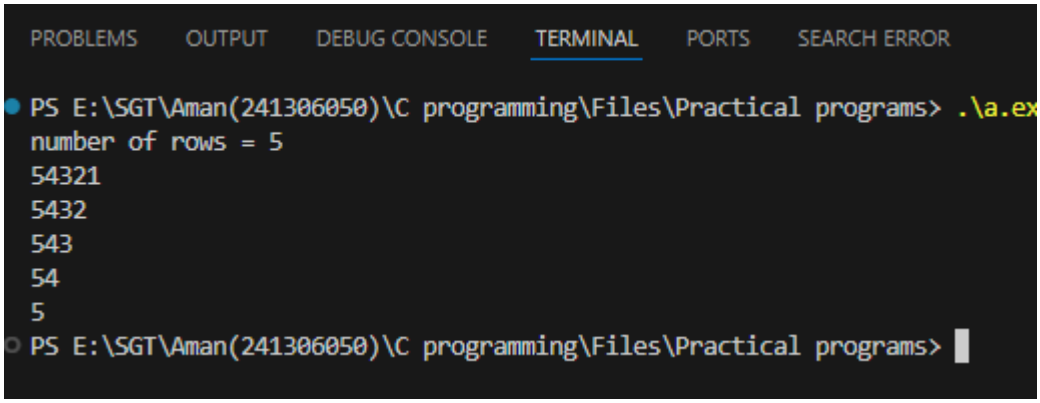


Program 5
Write a program to display inverse triangle pattern.

```
#include <stdio.h>
int main(){
        int rows,i,j;
        printf("number of rows = ");
        scanf("%d",&rows);
        for(i=1;i<=rows;i++)

        {
        then j will print numbers from 5 to1*/
                for(j=5;j>=i;j--)
                {  printf("%d",j);
                } printf("\n");
        }
        return 0;
```

}

Output

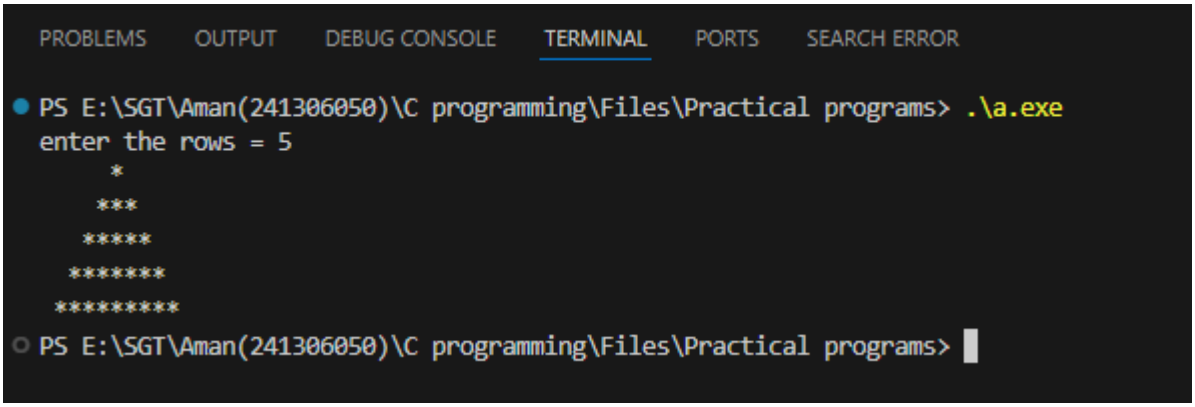


Program 6
Write a program to display pyramid pattern.

```
#include <stdio.h>
int main()
{
        int i,j,k,rows;
        printf("enter the rows = ");
        scanf("%d",&rows);
        /* i is for the number of rows i=1 to i=rows*/
        for(i=1;i<=rows;i++){

          /* j is to maintain the space from the left side
        so that it starts printing from the middle*/

                  for(j=rows;j>=i;j--){
                printf(" ");
                 }/*k is to print the value inti piramid form it'll work as
                 if i =2, k<=2*2-1 i.e. k<=3 so it'll print three "*" in second row*/
                for(k=1;k<=2*i-1;k++){
                        printf("*");
                }
```

```
            printf("\n");
        }
        return 0;
}
```

Output



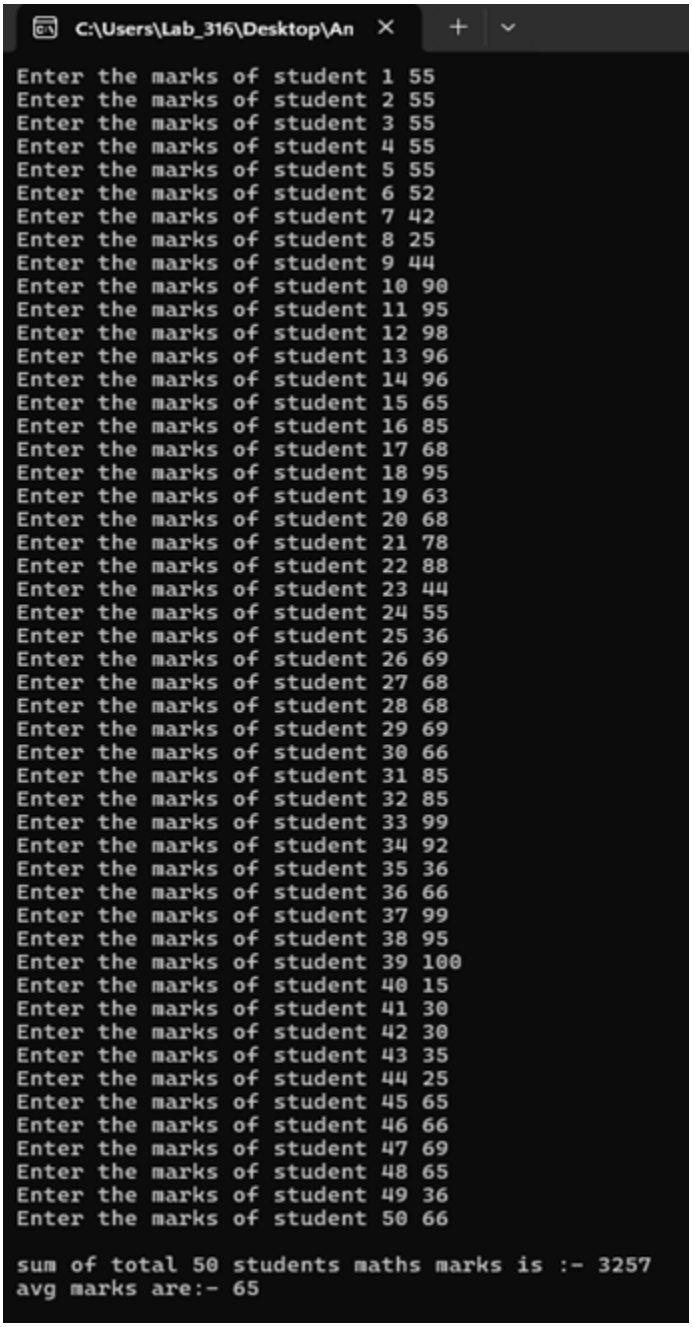
Program 7

Write a program to input marks of 50 students using an array and display and display the average marks.

```
#include <stdio.h>
int main(){
int i,sum=0,avg;
int array[50];

for(i=0;i<50;i++){
        printf("Enter the marks of student %d ",i+1);
        scanf("%d",&array[i]);
}
for(i=0;i<50;i++){
        sum+=array[i];
        avg = sum/50;

}



printf("\nsum of total 50 students maths marks is :- %d\n",sum);
printf("avg marks are:- %d ",avg);
```

```
return 0;
}
```

OUTPUT

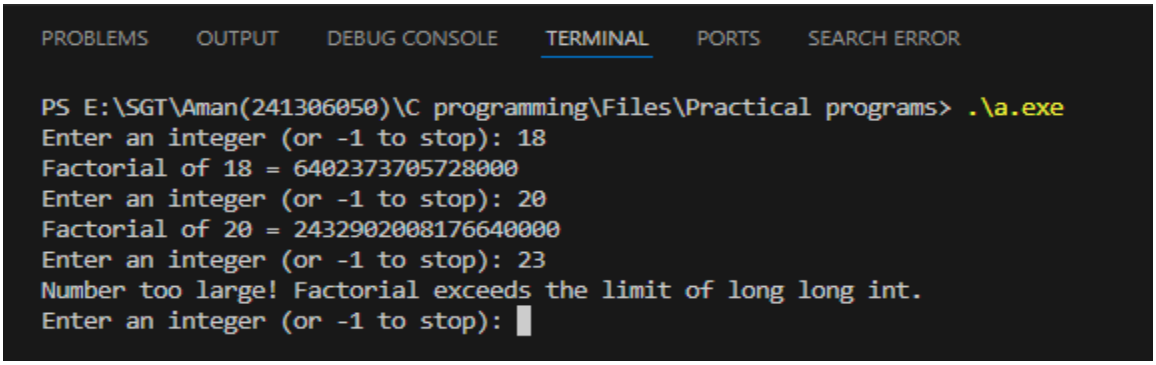

C:\Users\Lab_316\Desktop\An
Enter the marks of student 1 55
Enter the marks of student 2 55
Enter the marks of student 3 55
Enter the marks of student 4 55
Enter the marks of student 5 55
Enter the marks of student 6 52
Enter the marks of student 7 42
Enter the marks of student 8 25
Enter the marks of student 9 44
Enter the marks of student 10 90
Enter the marks of student 11 95
Enter the marks of student 12 98
Enter the marks of student 13 96
Enter the marks of student 14 96
Enter the marks of student 15 65
Enter the marks of student 16 85
Enter the marks of student 17 68
Enter the marks of student 18 95
Enter the marks of student 19 63
Enter the marks of student 20 68
Enter the marks of student 21 78
Enter the marks of student 22 88
Enter the marks of student 23 44
Enter the marks of student 24 55
Enter the marks of student 25 36
Enter the marks of student 26 69
Enter the marks of student 27 68
Enter the marks of student 28 68
Enter the marks of student 29 69
Enter the marks of student 30 66
Enter the marks of student 31 85
Enter the marks of student 32 85
Enter the marks of student 33 99
Enter the marks of student 34 92
Enter the marks of student 35 36
Enter the marks of student 36 66
Enter the marks of student 37 99
Enter the marks of student 38 95
Enter the marks of student 39 100
Enter the marks of student 40 15
Enter the marks of student 41 30
Enter the marks of student 42 30
Enter the marks of student 43 35
Enter the marks of student 44 25
Enter the marks of student 45 65
Enter the marks of student 46 66
Enter the marks of student 47 69
Enter the marks of student 48 65
Enter the marks of student 49 36
Enter the marks of student 50 66
sum of total 50 students maths marks is :- 3257
avg marks are:- 65

Program 8

write a program to take number users and print its factorial.

```
#include <stdio.h>
int main() {
   int num, i;
   long long int factorial;
   while (1) {
      printf("Enter an integer (or -1 to stop): ");
      if (scanf("%d", &num) != 1) {
         printf("Invalid input. Please enter a valid integer.\n");
         while (getchar() != '\n');
         continue;
      }

      if (num == -1) {
         printf("Program terminated.\n");
         break;
      }
      if (num < 0) {
         printf("Factorial is not defined for negative numbers.\n");
      } else if (num > 20) {
         printf("Number too large! Factorial exceeds the limit of long long int.\n");
      } else {
         factorial = 1;
         for (i = 1; i <= num; ++i) {
            factorial *= i;
         }
         printf("Factorial of %d = %lld\n", num, factorial);
      }
   }
   return 0; }
```

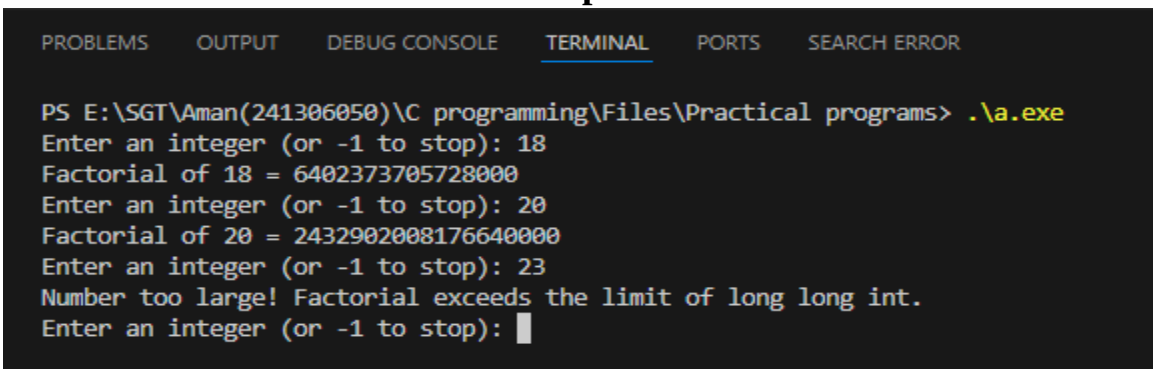
Output



Using Function of Factorial

```c
#include <stdio.h>
long long int factorial(int num) {
    long long int fact = 1;
    int i;
    for (i = 1; i <= num; ++i) {
        fact *= i;
    }
    return fact;
}
int main() {
    int num;
    while (1) {
        printf("Enter an integer (or -1 to stop): ");
        if (scanf("%d", &num) != 1) {
            printf("Invalid input. Please enter a valid integer.\n");
            while (getchar() != '\n');
            continue;
        }

        if (num == -1) {
            printf("Program terminated.\n");
            break;
        }
        if (num < 0) {
            printf("Factorial is not defined for negative numbers.\n");
        } else if (num > 20) {
            printf("Number too large! Factorial exceeds the limit of long long int.\n");
        } else {
            printf("Factorial of %d = %lld\n", num, factorial(num));
        }
    }
    return 0;}
```

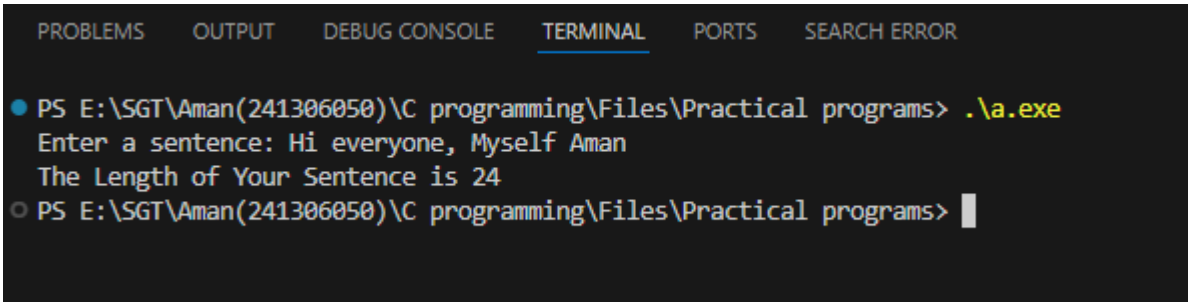
Output



Program 9
String Characters Count

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

int main()
{
   char str[100];
   int len;

   printf("Enter a sentence: ");

   fgets(str, sizeof(str), stdin);
   str[strcspn(str, "\n")] = '\0';
   len = strlen(str);
   printf("The Length of Your Sentence is %d\n", len);
   return 0;
}
```

OUTPUT

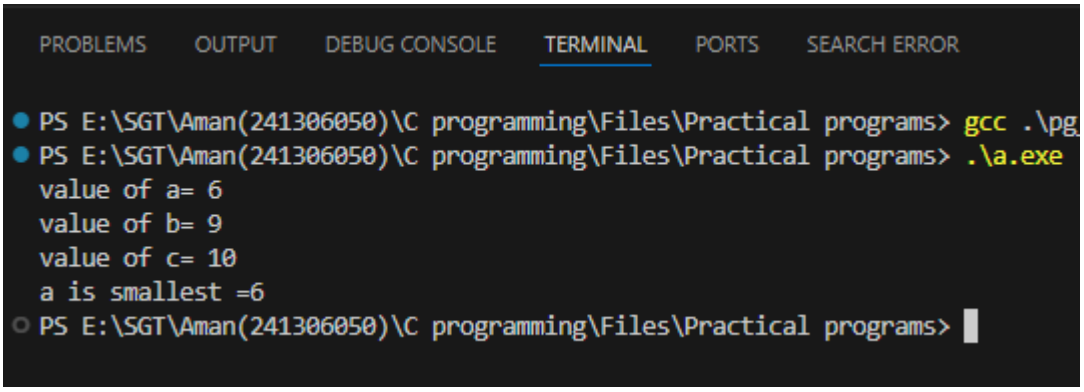


Program 10

Write a Program to find the smallest value from three values

```
#include <stdio.h>
int main()
{
   int a,b,c;
   printf("value of a= ");
   scanf("%d",&a);
    printf("value of b= ");
   scanf("%d",&b);
    printf("value of c= ");
   scanf("%d",&c);
   if ((a<b)&&(a<c))
   { printf("a is smallest =%d",a);
   }
   else if ((b<a)&&(b<c))
   { printf("b is smallest=%d",b);
   }
   else
   {  printf ("c is smallest =%d",c);}
   return 0;
}
```

Output

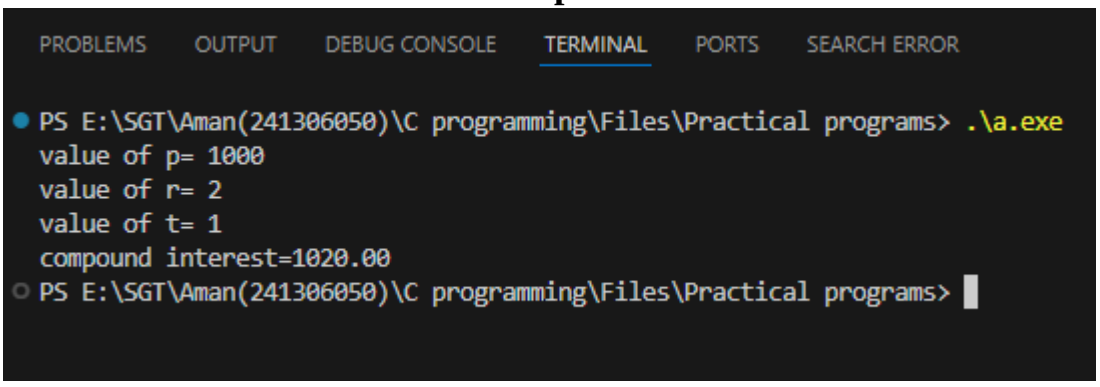


Program 11

Write a Program to find the compound interest:

```
#include <stdio.h>
#include <math.h>
int main()
{
   float p,r,t,CI;
   printf("value of p= ");
   scanf("%f",&p);
    printf("value of r= ");
   scanf("%f",&r);
    printf("value of t= ");
   scanf("%f",&t);

   CI=p*pow(1+r/100,t);
   printf("compound interest=%.2f",CI);

   return 0;
}
```

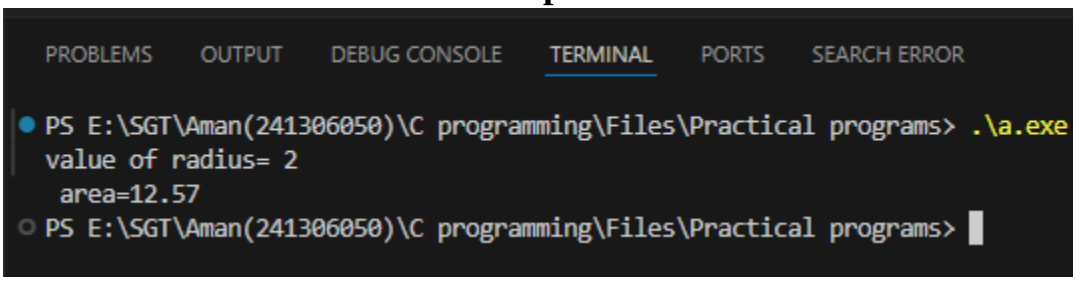
Output



Program 12
Write a Program to find the area of the circle.

```
#include <stdio.h>
#include <math.h>
int main()
{
float radius , area;
printf("value of radius= ");
scanf("%f",&radius);

area=acos(-1) *radius *radius;
printf(" area=%.2f",area);

return 0;
}
```

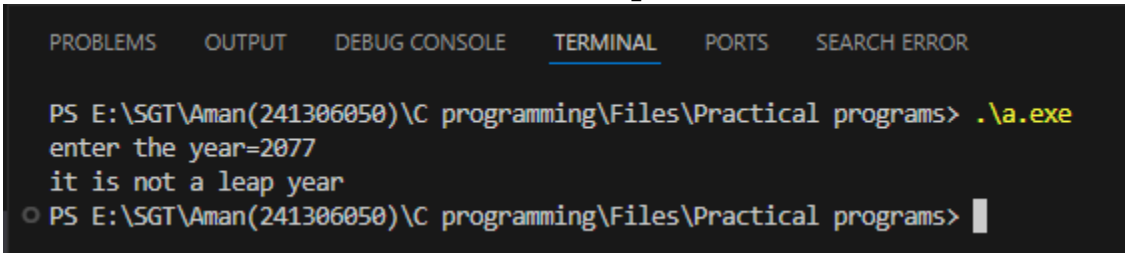
Output



Program 13
Write a Program to find the leap year

```
#include <stdio.h>

int main() {
   int year;
   printf("enter the year=");
   scanf("%d",&year);
   if (year%4==0)
   {
      printf("it is leap year");
   }
   else
   {
      printf("it is not a leap year");
   }

   return 0;
}
```

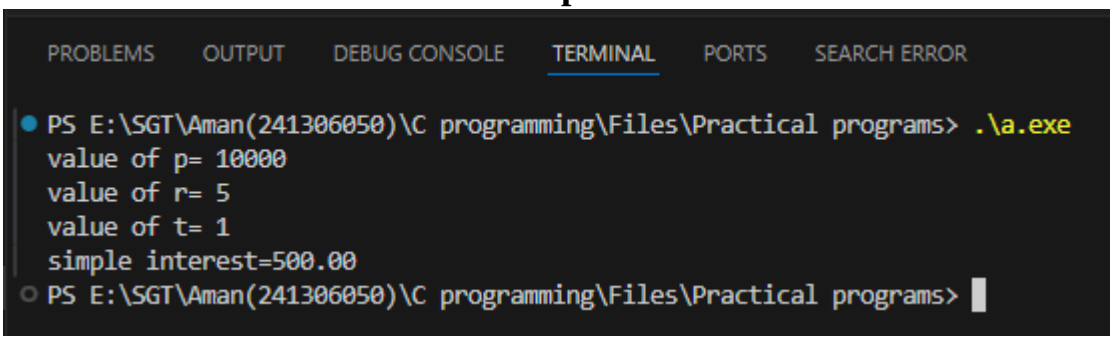
Output



Program 14
Write a Program to find the simple interest:

```
#include <stdio.h>

int main()
{
   float p,r,t,SI;
   printf("value of p= ");
   scanf("%f",&p);
    printf("value of r= ");
   scanf("%f",&r);
    printf("value of t= ");
   scanf("%f",&t);

   SI= (p*r*t)/100;
   printf("simple interest=%.2f",SI);

   return 0;
}
```

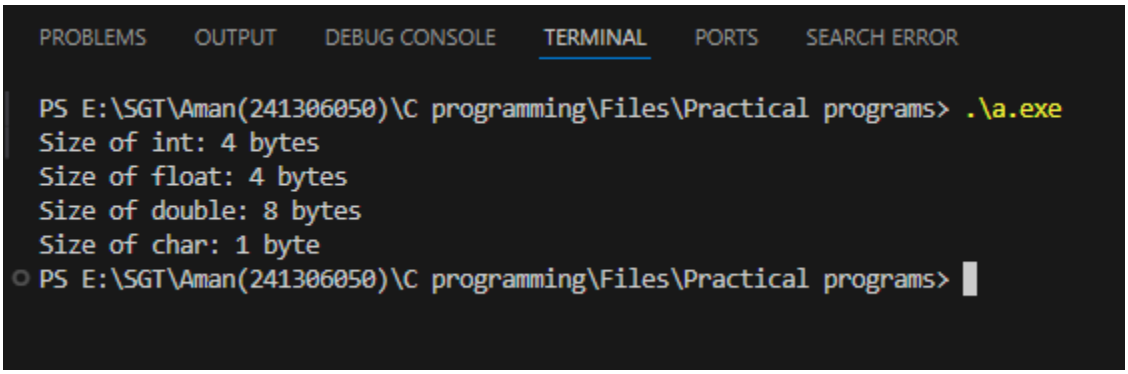
Output



Program 15
Display size of data types

```
#include <stdio.h>

int main() {
printf("Size of int: %zu bytes\n", sizeof(int));
printf("Size of float: %zu bytes\n", sizeof(float));
printf("Size of double: %zu bytes\n", sizeof(double));
printf("Size of char: %zu byte\n", sizeof(char));
return 0;
}
```

Output

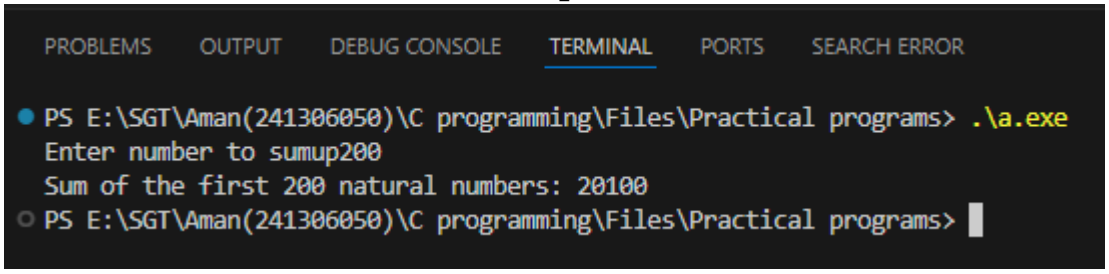


Program 16

Write a Program to print sum of 1 to n^{th} numbers using for loop

```
#include <stdio.h>
int main() {
    int i,j;
    printf("Enter number to sumup");
    scanf("%d",&j);
   int sum = 0;
   for (i = 1; i <= j; i++) {
      sum += i;
   }
   printf("Sum of the first %d natural numbers: %d\n",j, sum);
}
```

Output



Program 17

Write a Program to print multiplication table of first n natural numbers using for loop in table structure

```
#include<stdio.h>
int main(){
int i,j,l;
printf("enter no. till you want to print=");
scanf("%d",&l);
printf("tables from 1 to %d\n",l);
for(j=1;j<=10;j++){
for(i=1;i<=l;i++)
{
printf("%d\t",j*i);
}
printf("\n");
}
return 0;
}
```

Output

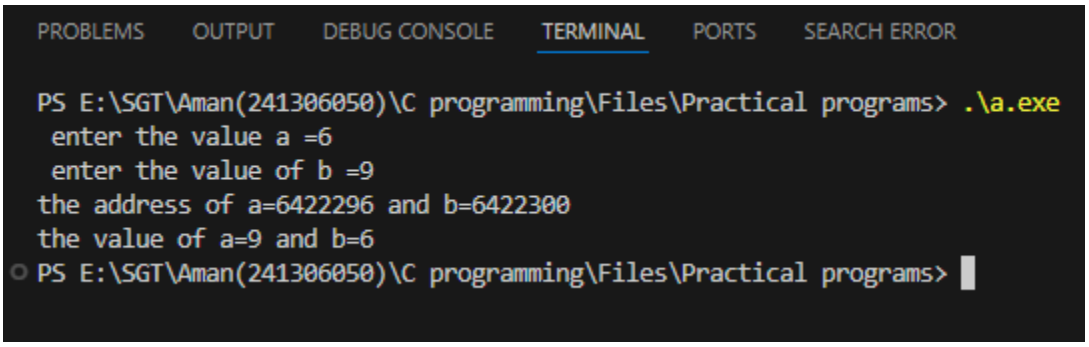
```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SEARCH ERROR

PS E:\SGT\Aman(241306050)\C programming\Files\Practical programs> .\a.exe
enter no. till you want to print=10
tables from 1 to 10
1       2       3       4       5       6       7       8       9       10
2       4       6       8       10      12      14      16      18      20
3       6       9       12      15      18      21      24      27      30
4       8       12      16      20      24      28      32      36      40
5       10      15      20      25      30      35      40      45      50
6       12      18      24      30      36      42      48      54      60
7       14      21      28      35      42      49      56      63      70
8       16      24      32      40      48      56      64      72      80
9       18      27      36      45      54      63      72      81      90
10      20      30      40      50      60      70      80      90      100
PS E:\SGT\Aman(241306050)\C programming\Files\Practical programs>
```

Program 18

WRITE A PROGRAM TO PRINT THE ADDRESS AND THE VALUE OF THE VARIABLE USING CALL BY VALUE AND CALL BY REFERENCE

```
int swap(int *x, int *y);
#include <stdio.h>
int main(){
int a,b,c,d;
printf(" enter the value a =");
scanf("%d",&a);
printf(" enter the value of b =");
scanf("%d",&b);
swap(&a,&b);
}
int swap(int *x, int *y){
int temp;
temp=x;
x=y;
y=temp;
printf("the address of x=%d and y=%d\n",x,y);
printf("the value of x=%d and y=%d",*x,*y);
return 0;
}
```

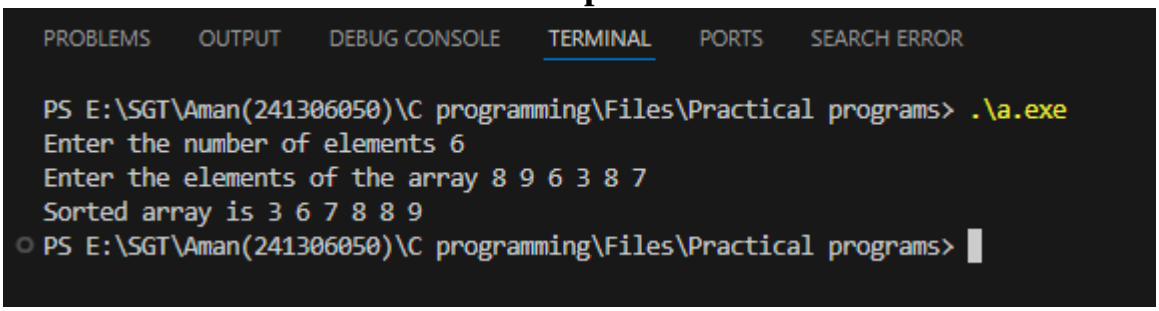
OUTPUT



Program 19
Write a Program to Sorting Array into Ascending Order (Using Bubble Sort)

```
#include <stdio.h>
int main() {
int n;
printf("Enter the number of elements ");
scanf("%d", &n);
int arr[n];
int r;
printf("Enter the elements of the array ");
for (r=0;r<n;r++)
{
scanf("%d", &arr[r]);
}
int i, j;
for (i=0;i<n;i++)
{
for (j=0;j<n-i-1;j++)
{
if (arr[j] > arr[j+1])
{
int temp = arr[j];
arr[j] = arr[j+1];
arr[j+1] = temp;
}
}
}
printf("Sorted array is ");
for (i=0;i<n;i++)
{
printf("%d ", arr[i]);
}
return 0;
}
```

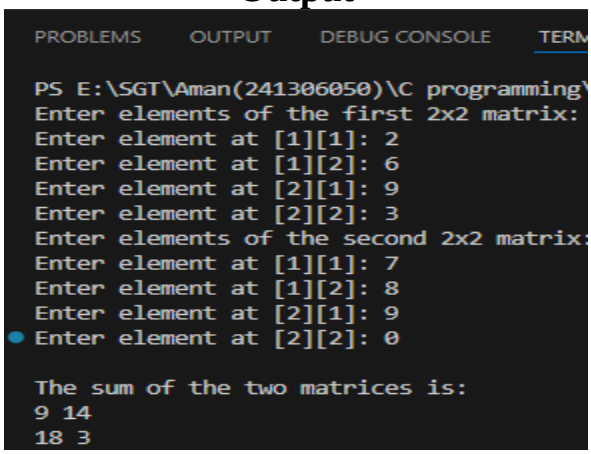
Output



Program 20
Write a program to perform matrix addition on 2D Arrays

```
#include <stdio.h>
int main() {
   int i, j;
   int matrix1[2][2], matrix2[2][2], result[2][2];
   printf("Enter elements of the first 2x2 matrix:\n");
   for (i = 0; i < 2; i++) {
      for (j = 0; j < 2; j++) {
         printf("Enter element at [%d][%d]: ", i + 1, j + 1);
         scanf("%d", &matrix1[i][j]);
      }
   }
   printf("Enter elements of the second 2x2 matrix:\n");
   for (i = 0; i < 2; i++) {
      for (j = 0; j < 2; j++) {
         printf("Enter element at [%d][%d]: ", i + 1, j + 1);
         scanf("%d", &matrix2[i][j]);
      }}
   // Calculate the sum of the matrices
   for (i = 0; i < 2; i++) {
      for (j = 0; j < 2; j++) {
         result[i][j] = matrix1[i][j] + matrix2[i][j];
      }}
   printf("\nThe sum of the two matrices is:\n");
   for (i = 0; i < 2; i++) {
      for (j = 0; j < 2; j++) {
         printf("%d ", result[i][j]);
      }
      printf("\n");}
   return 0; }
```

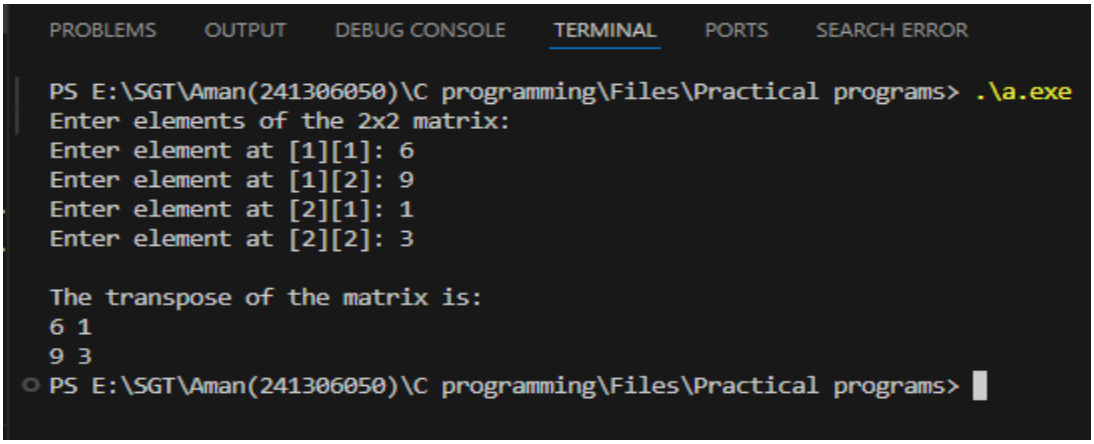
Output



Program 21
Write a program to perform Matrix transpose on 2D Array.

```
#include<stdio.h>

int main() {
   int i,j;
   int matrix[2][2],transpose[2][2];

   printf("Enter elements of the 2x2 matrix:\n");     for(i=0;i<2;i++) {         for(j=0;j<2;j++) {
         printf("Enter element at [%d][%d]: ",i+1,j+1);            scanf("%d",&matrix[i][j]);
      }
   }

   for(i=0;i<2;i++) {         for(j=0;j<2;j++) {
         transpose[j][i]=matrix[i][j];
      }
   }

   printf("\nThe transpose of the matrix is:\n");     for(i=0;i<2;i++) {         for(j=0;j<2;j++) {
         printf("%d ",transpose[i][j]);
      }
      printf("\n");
   }

   return 0; }
```

OUTPUT

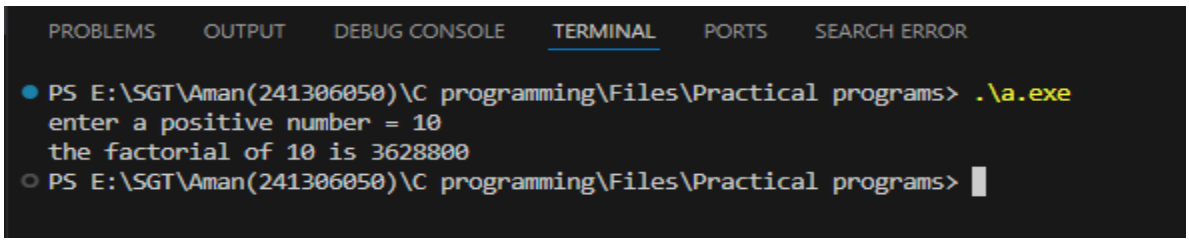


Program 22

WRITE A PROGRAM TO FIND THE FACTORIAL USING RECURSION

```
int factorial(int num);
#include<stdio.h>
int main()
{
int n, num;
printf("enter a positive number = ");
scanf("%d",&n);
if(num<0){
printf("factorial of negative nums are not defined ");
}
else{
printf("the factorial of %d is %d",n,factorial(n));
}
return 0;
}
int factorial(int num) {
if(num == 0||num == 1){
return 1;}
else{
return num*factorial(num-1);
}}
```

Output

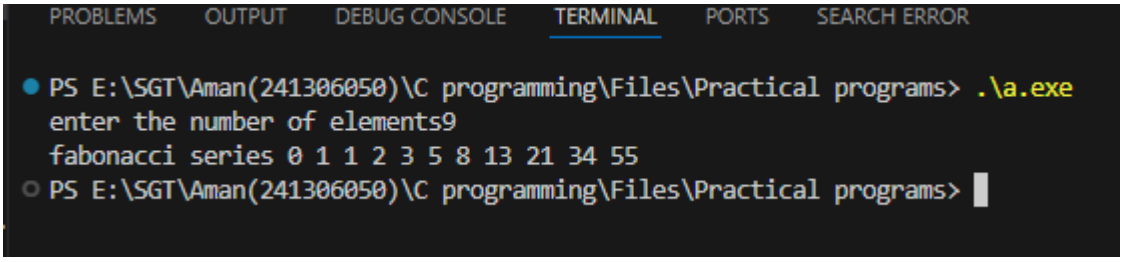


Program 23

WRITE A PROGRAM TO PRINT THE FIBONACCI SERIES

```
int fibseries(int num);
#include<stdio.h>
int main(){
int n;
printf("enter the number of elements");
scanf("%d",&n);
printf("fabonacci series ");
printf("%d %d ",0,1);
fibseries(n);
return 0;
}
int fibseries(int n){
static int n1=0,n2=1,n3;
if(n>0){
n3=n1+n2;
n1=n2;
n2=n3;
printf("%d ",n3);
fibseries(n-1);
}
return 0;
}
```

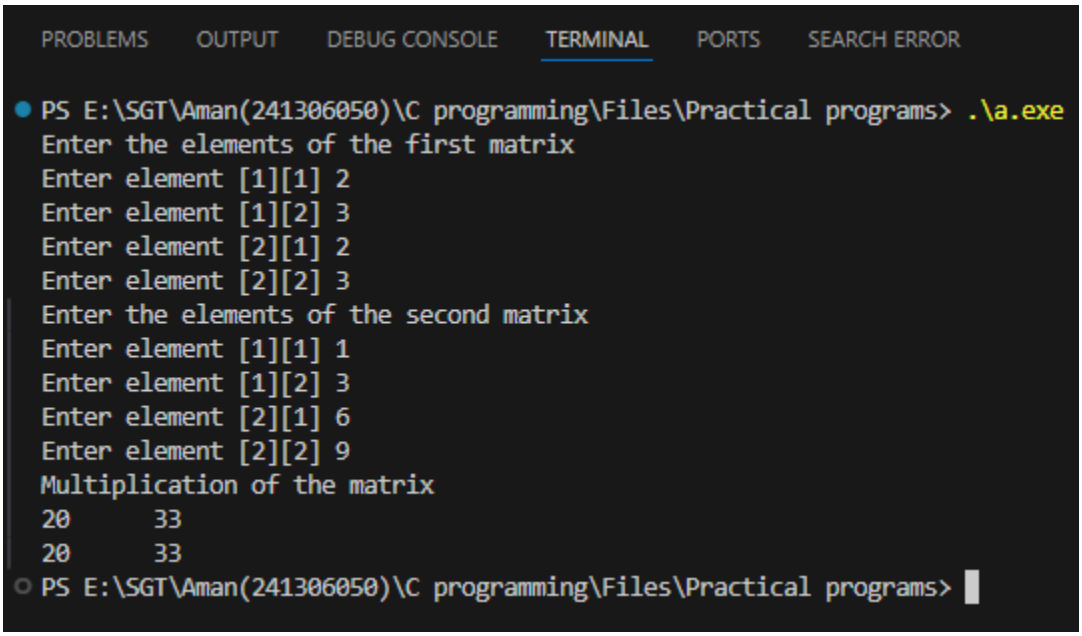
OUTPUT



Program 24
WRITE A PROGRAM TO PERFORM MATRIX MULTIPLICATION IN 2D ARRAY

```
#include <stdio.h>
int main()
{
int A[2][2],B[2][2],C[2][2],i,j,k;
printf("Enter the elements of the first matrix\n");
for(i=0;i<2;i++)
{
for(j=0;j<2;j++){
printf("Enter element [%d][%d] ",i+1,j+1);
scanf("%d",&A[i][j]);
}}
printf("Enter the elements of the second matrix\n");
for(i=0;i<2;i++)
{
for(j=0;j<2;j++){
printf("Enter element [%d][%d] ",i+1,j+1);
scanf("%d",&B[i][j]);
}}
for(i=0;i<2;i++)
{
for(j=0;j<2;j++){
C[i][j]=0;
for(k=0;k<2;k++){
C[i][j]+=A[i][k]*B[k][j];
}}}
printf("Multiplication of the matrix \n");
for(i=0;i<2;i++)
{
for(j=0;j<2;j++){
printf("%d\t",C[i][j]);
}
printf("\n");
}
return 0;}
```

OUTPUT


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
SEARCH ERROR
PS E:\SGT\Aman(241306050)\C programming\Files\Practical programs> .\a.exe
Enter the elements of the first matrix
Enter element [1][1] 2
Enter element [1][2] 3
Enter element [2][1] 2
Enter element [2][2] 3
Enter the elements of the second matrix
Enter element [1][1] 1
Enter element [1][2] 3
Enter element [2][1] 6
Enter element [2][2] 9
Multiplication of the matrix
20 33
20 33
PS E:\SGT\Aman(241306050)\C programming\Files\Practical programs>

Program 25

Write a menu driven program to implement the following string operations:

- **Calculate length of a string**
- **Concatenate at the end of a given string**
- **Copy one string to another**
- **Compare contents of two strings**

```
#include <stdio.h>
#include <string.h>
int main() {
char str1[100], str2[100], str3[100];
int choice, i;
do {
printf("\nMenu:\n");
printf("1. Calculate length of a string\n");
printf("2. Concatenate at the end of a given string\n");
printf("3. Copy one string to another\n");
printf("4. Compare contents of two strings\n");
printf("5. Exit\n");
printf("Enter your choice: ");
scanf("%d", &choice);
switch (choice) {
case 1:
printf("Enter a string: ");
scanf("%s", str1);
for (i = 0; str1[i] != '\0'; i++);
printf("Length of the string: %d\n", i);
break;
case 2:
printf("Enter the first string: ");
scanf("%s", str1);
printf("Enter the second string to concatenate: ");
scanf("%s", str2);
for (i = 0; str1[i] != '\0'; i++);
int j;
for (j = 0; str2[j] != '\0'; j++, i++) {

str1[i] = str2[j];
}
str1[i] = '\0';
printf("Concatenated string: %s\n", str1);
break;
case 3:
printf("Enter a string to copy: ");
scanf("%s", str1);
```

```
for (i = 0; str1[i] != '\0'; i++) {
str2[i] = str1[i];
}
str2[i] = '\0';
printf("Copied string: %s\n", str2);
break;
case 4:
printf("Enter the first string: ");
scanf("%s", str1);
printf("Enter the second string: ");
scanf("%s", str2);
for (i = 0; str1[i] != '\0' && str2[i] != '\0'; i++) {
if (str1[i] != str2[i]) {
break;
}
}
if (str1[i] == '\0' && str2[i] == '\0') {
printf("Strings are equal\n");
} else {
printf("Strings are not equal\n");
}
break;
case 5:
printf("Exiting program.\n");
break;
default:
printf("Invalid choice. Try again.\n");
}
} while (choice != 5);
return 0;}
```

OUTPUTS

Case 1

```
Menu:
1. Calculate length of a string
2. Concatenate at the end of a given string
3. Copy one string to another
4. Compare contents of two strings
5. Exit
Enter your choice: 1
Enter a string: Aman
Length of the string: 4
```

Case 2

```
Menu:
1. Calculate length of a string
2. Concatenate at the end of a given string
3. Copy one string to another
4. Compare contents of two strings
5. Exit
Enter your choice: 2
Enter the first string: Fave
Enter the second string to concatenate: Aman
Concatenated string: FaveAman
```

Case 3

```
Menu:
1. Calculate length of a string
2. Concatenate at the end of a given string
3. Copy one string to another
4. Compare contents of two strings
5. Exit
Enter your choice: 3
Enter a string to copy: Fave
Copied string: Fave
```

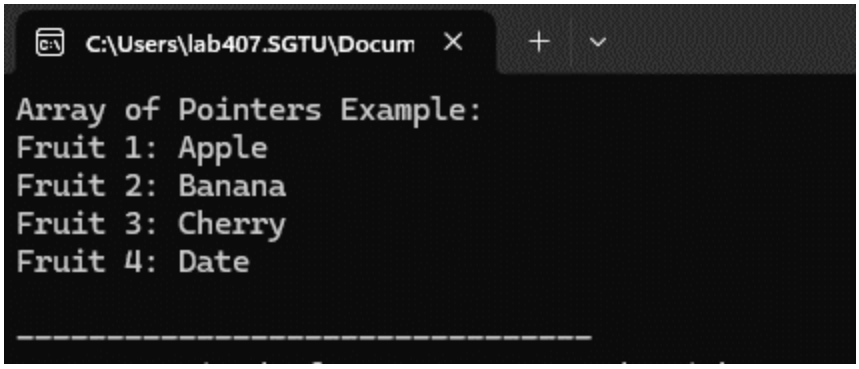
Case 4

```
Menu:
1. Calculate length of a string
2. Concatenate at the end of a given string
3. Copy one string to another
4. Compare contents of two strings
5. Exit
Enter your choice: 4
Enter the first string: Noob
Enter the second string: fave
Strings are not equal
```

Program 26
Array of Pointers Example Displaying a List of Fruits

```
#include <stdio.h>
int main() {
   const char *fruits[] = {"Apple", "Banana", "Cherry", "Date"};
   int n = sizeof(fruits) / sizeof(fruits[0]);
   printf("Array of Pointers Example:\n");
   for (int i = 0; i < n; i++) {
      printf("Fruit %d: %s\n", i + 1, fruits[i]);
   }
   return 0;
}
```

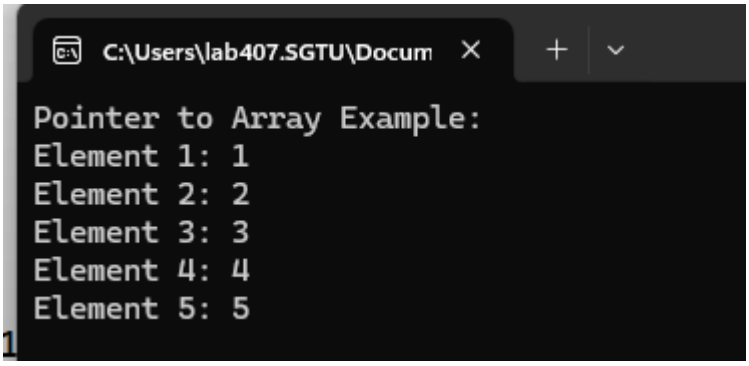
OUTPUT



Program 27
Pointer to Array Example Accessing an Integer Array

```
#include <stdio.h>
int main() {
    int numbers[5] = {1, 2, 3, 4, 5};
    int (*ptr)[5] = &numbers;
    printf("Pointer to Array Example:\n");
    for (int i = 0; i < 5; i++) {
        printf("Element %d: %d\n", i + 1, (*ptr)[i]);
    }
    return 0;
}
```

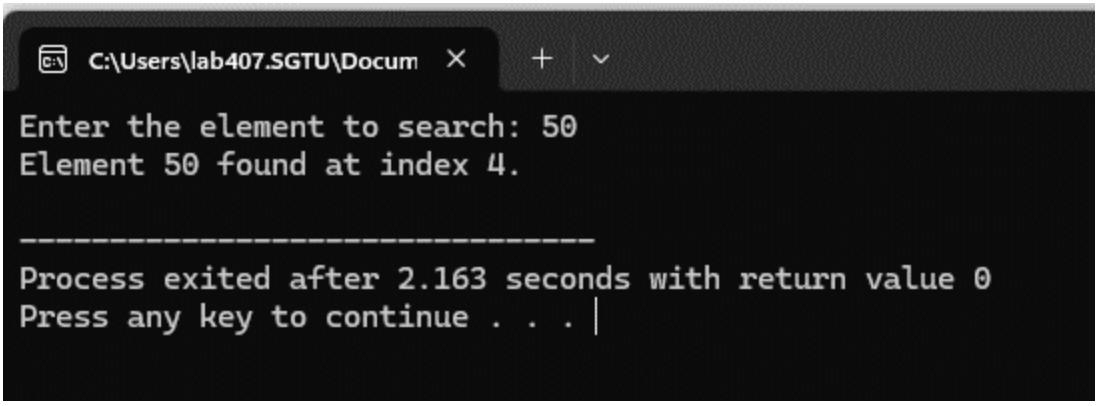
OUTPUT



Program 28
Program to Implement Binary Search

```
#include <stdio.h>
int binarySearch(int arr[], int size, int key) {
    int low = 0, high = size - 1, mid;
    while (low <= high) {
        mid = (low + high) / 2;
        if (arr[mid] == key) {
            return mid;
        } else if (arr[mid] < key) {
            low = mid + 1;
        } else {
            high = mid - 1;
        }}
    return -1;
}
int main() {
    int arr[] = {10, 20, 30, 40, 50, 60, 70, 80, 90};
    int size = sizeof(arr) / sizeof(arr[0]);
    int key;

    printf("Enter the element to search: ");
    scanf("%d", &key);

    int result = binarySearch(arr, size, key);

    if (result != -1) {
        printf("Element %d found at index %d.\n", key, result);
    } else {
        printf("Element %d not found in the array.\n", key);
    }
    return 0;}
```

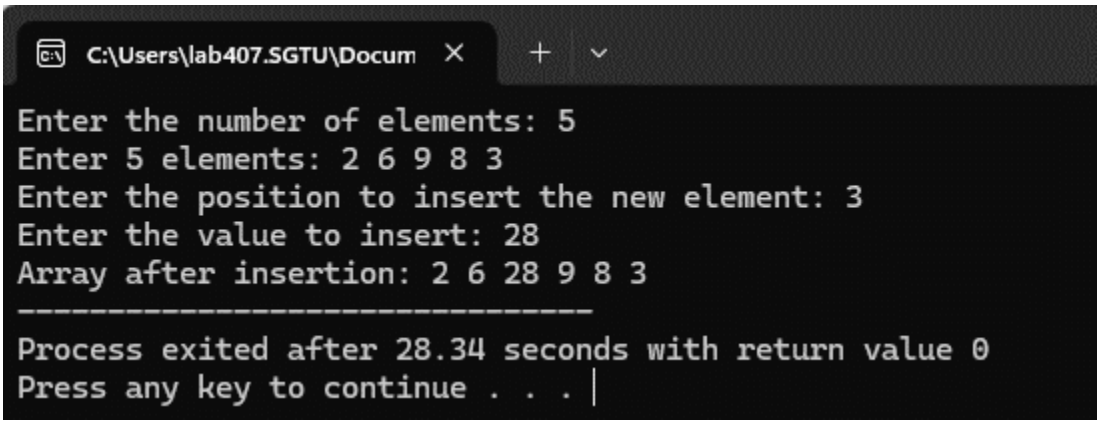
OUTPUT



Program 29
Program to Perform Insertion in an Array

```
#include <stdio.h>
int main() {
    int arr[100], n, pos, value;
    printf("Enter the number of elements: ");
    scanf("%d", &n);
    printf("Enter %d elements: ", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    printf("Enter the position to insert the new element: ");
    scanf("%d", &pos);
    printf("Enter the value to insert: ");
    scanf("%d", &value);
    for (int i = n; i >= pos; i--) {
        arr[i] = arr[i - 1];
    }
    arr[pos - 1] = value;

    printf("Array after insertion: ");
    for (int i = 0; i <= n; i++) {
        printf("%d ", arr[i]);
    }
    return 0;
}
```

OUTPUT



Program 30
Program to Implement Linear Search

```
#include <stdio.h>
int main() {
   int arr[100], n, key, found = 0;
   printf("Enter the number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements: ", n);
   for (int i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }
   printf("Enter the element to search: ");
   scanf("%d", &key);

   for (int i = 0; i < n; i++) {
      if (arr[i] == key) {
         printf("Element %d found at index %d.\n", key, i);
         found = 1;
         break;
      }
   }
   if (!found) {
      printf("Element %d not found in the array.\n", key);
   }

   return 0;
}
```

OUTPUT