

MODULE: 3.1 (C Language Fundamental)

1. Display This Information using printf

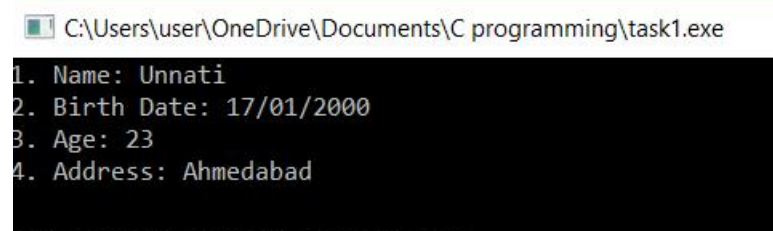
1. Your Name
2. Your Birth date
3. Your Age
4. Your Address

Code:

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

```
int main() {  
    char name[] = "Unnati";  
    char birthDate[] = "17/01/2000";  
    int age = 23;  
    char address[] = "Ahmedabad";  
  
    printf("1. Name: %s\n", name);  
    printf("2. Birth Date: %s\n", birthDate);  
    printf("3. Age: %d\n", age);  
    printf("4. Address: %s\n", address);  
  
    return 0;  
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\task1.exe  
1. Name: Unnati  
2. Birth Date: 17/01/2000  
3. Age: 23  
4. Address: Ahmedabad
```

2. Write a program to make Simple calculator (to make addition, subtraction,multiplication, division and modulo)

Code:

```
#include <stdio.h>
int main()
{
    int number1, number2, addition, subtraction, multiply;
    float divide;

    printf("Enter Number 1\n");
    scanf("%d", &number1);
    printf("Enter Number 2\n");
    scanf("%d", &number2);
    addition    = number1 + number2 ;
    subtraction = number1 - number2;
    multiply = number1 * number2;
    divide    = number1 / (float)number2; //typecasting
    printf("Addition = %d\n",addition);
    printf("Subtraction = %d\n",subtraction);
    printf("Multiplication = %d\n",multiply);
    printf("Division = %.2f\n",divide);

    return 0;
}
```

Output:

 C:\Users\user\OneDrive\Documents\C programming\calculator1.exe

```
Enter Number 1
34
Enter Number 2
56
Addition = 90
Subtraction = -22
Multiplication = 1904
Division = 0.61
```

3. WAP to find area of circle, rectangle and triangle

Code:

```
#include <stdio.h>
main()
{
    float aoc,width,length,area;
    int r,side1,side2,aos;

    printf("Enter width of rectangle :");
    scanf("%f",&width);

    printf("Enter length of rectangle :");
    scanf("%f",&length);

    area = width*length;
    printf("area of rectangle %f\n :",area);

    printf("Enter a side of square :");
    scanf("%d",&side1);

    printf("Enter a side of square :");
    scanf("%d",&side2);

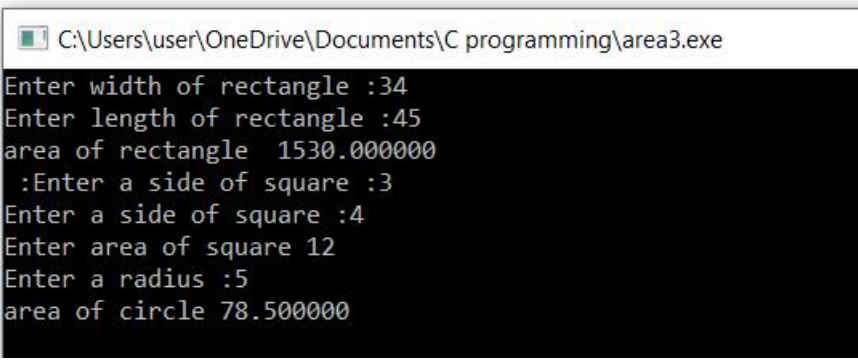
    aos = side1*side2;
    printf("Enter area of square %d\n",aos);

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

    aoc = 3.14*r*r;
    printf ("area of circle %f\n",aoc);
```

}

Output:




```
C:\Users\user\OneDrive\Documents\C programming\area3.exe
Enter width of rectangle :34
Enter length of rectangle :45
area of rectangle 1530.000000
:Enter a side of square :3
Enter a side of square :4
Enter area of square 12
Enter a radius :5
area of circle 78.500000
```

4. WAP to find simple interest

CODE:

```
#include<stdio.h>
main()
{
    float P=1,T=1,R=1;
    float SI = P*T*R/100;
    printf("simple interest =%f/n",SI);
}
```

OUTPUT:

 C:\Users\user\OneDrive\Documents\C programming\SI.exe

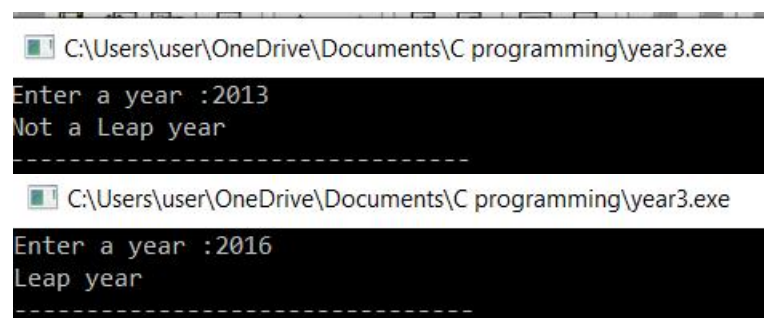
simple interest =0.010000/n

5. WAP to check if the given year is a leap year or not.

CODE:

```
#include<stdio.h>
main()
{
    int y;
    printf("Enter a year :");
    scanf("%d",&y);
    (y%4==0 && printf("Leap year")) || printf("Not a Leap
year");
}
```

OUTPUT:



```
C:\Users\user\OneDrive\Documents\C programming\year3.exe
Enter a year :2013
Not a Leap year
-----

C:\Users\user\OneDrive\Documents\C programming\year3.exe
Enter a year :2016
Leap year
-----
```

6. WAP to convert years into days and days into years

CODE:

```
#include<stdio.h>

int main()
{
    int number_of_days, years;

    printf("Enter number of days: ");

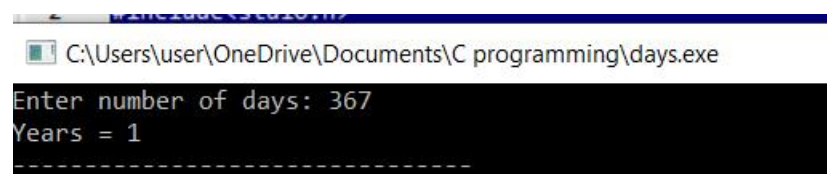
    scanf("%d", &number_of_days);

    years = number_of_days / 365;

    printf("Years = %d", years);

    return 0;
}
```

OUTPUT:



```
C:\Users\user\OneDrive\Documents\C programming\days.exe
Enter number of days: 367
Years = 1
-----
```

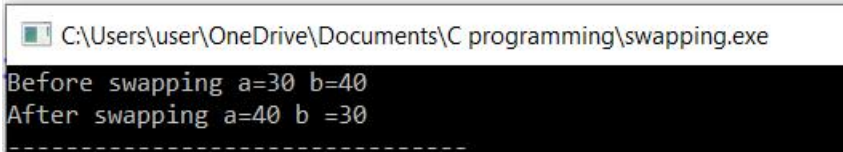

MODULE: 3.2 (C Language Programing with C)

7. WAP to swap two numbers without using third Variable

Code:

```
#include<stdio.h>
main()
{
    int a=30,b=40;
    printf("Before swapping a=%d b=%d",a,b);
    a = a+b;
    b = a-b;
    a = a-b;
    printf("\nAfter swapping a=%d b =%d",a,b);
}
```

Output:



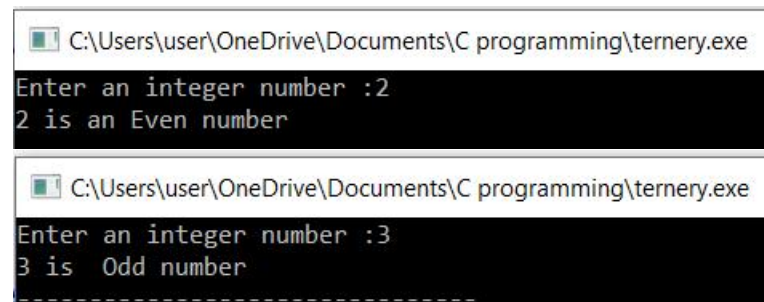
C:\Users\user\OneDrive\Documents\C programming\swapping.exe
Before swapping a=30 b=40
After swapping a=40 b =30

8. WAP to find number is even or odd using ternary operator

Code:

```
#include<stdio.h>
main(){
    int n;
    printf("Enter an integer number :");
    scanf("%d",&n);
    (n%2==0)?
    (printf("%d is an Even number",n)):
    (printf("%d is Odd number",n));
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\ternery.exe
Enter an integer number :2
2 is an Even number

C:\Users\user\OneDrive\Documents\C programming\ternery.exe
Enter an integer number :3
3 is Odd number
-----
```

9. WAP to show

1. Monday to Sunday using switch case

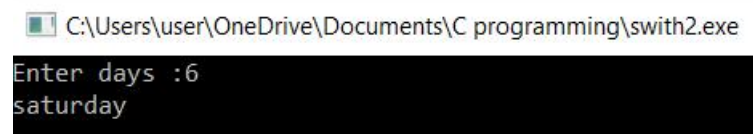
Code:

```
#include<stdio.h>
main(){
    int days;
    printf("Enter days :");
    scanf("%d",&days);
    switch(days){

        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("Invalid input");
        break;
    }
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\swith2.exe
Enter days :6
saturday
```

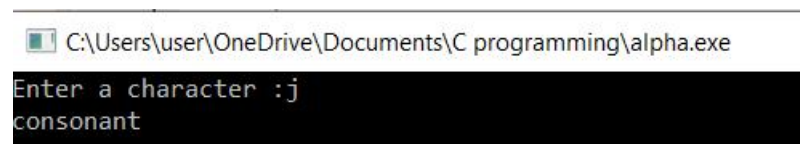
2. Vowel or Consonant using switch case

Code:

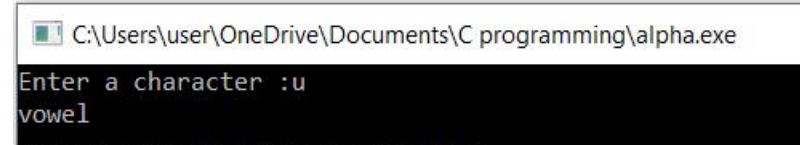
```
#include<stdio.h>
main()
{
    char ch;
    printf("Enter a character :");
    scanf("%c",&ch);
    switch(ch){
        case 'a':
            printf("vowel");
            break;
        case 'e':
            printf("vowel");
            break;
        case 'i':
            printf("vowel");
            break;
        case 'o':
            printf("vowel");
            break;
        case 'u':
```

```
        printf("vowel");  
        break;  
default:  
    printf("consonant");  
    break;  
}  
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\alpha.exe  
Enter a character :j  
consonant
```



```
C:\Users\user\OneDrive\Documents\C programming\alpha.exe  
Enter a character :u  
vowel
```

10. WAP to take 10 number..

2. Input from user and find out ...
3. How many Even numbers are there
4. How many odd numbers are there
5. Sum of even numbers
6. Sum of odd numbers

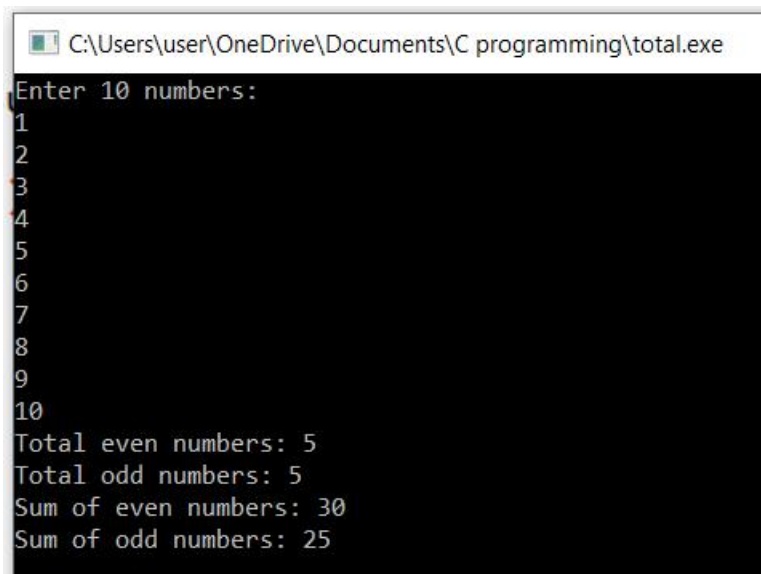
Code:

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

```
int main() {  
    int num,i, evenSum = 0, oddSum = 0,even = 0, odd = 0;  
  
    printf("Enter 10 numbers:\n");  
  
    for (i = 0; i < 10; i++) {  
        scanf("%d", &num);  
  
        if (num % 2 == 0) {  
            evenSum += num;  
            even++;  
        } else {  
            oddSum += num;  
            odd++;  
        }  
    }  
  
    printf("Total even numbers: %d\n", even);  
    printf("Total odd numbers: %d\n", odd);  
    printf("Sum of even numbers: %d\n", evenSum);  
    printf("Sum of odd numbers: %d\n", oddSum);  
}
```

```
    return 0;  
}
```

Output:



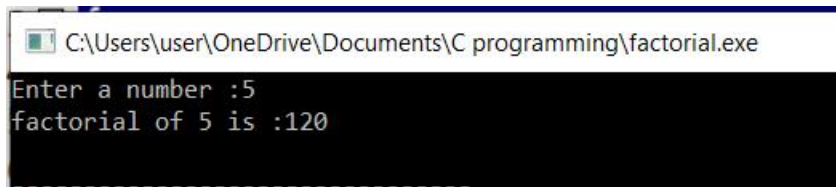
```
C:\Users\user\OneDrive\Documents\C programming\total.exe  
Enter 10 numbers:  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
Total even numbers: 5  
Total odd numbers: 5  
Sum of even numbers: 30  
Sum of odd numbers: 25
```

11. WAP to print factorial of given number

Code:

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

Output :

A screenshot of a Windows command prompt window. The title bar shows the file path: C:\Users\user\OneDrive\Documents\C programming\factorial.exe. The command prompt displays the text "Enter a number :5" followed by "factorial of 5 is :120". The window has a black background and white text.

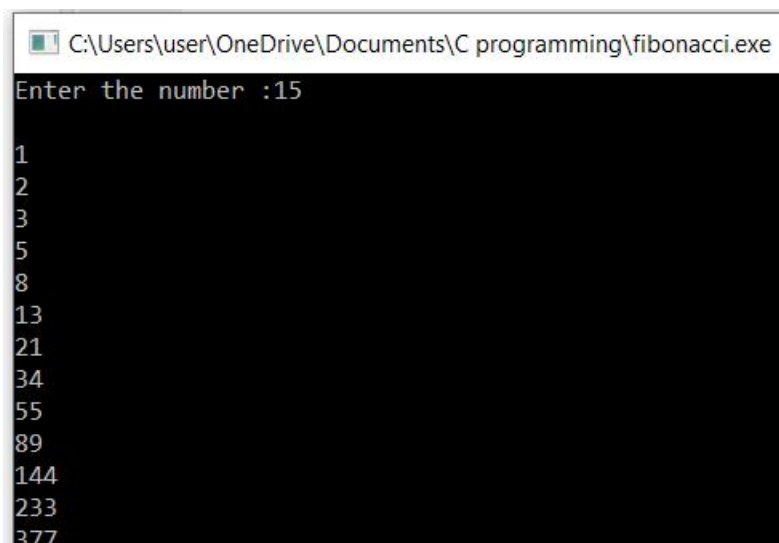
```
C:\Users\user\OneDrive\Documents\C programming\factorial.exe
Enter a number :5
factorial of 5 is :120
```


12. WAP to print Fibonacci series up to given numbers

Code:

```
#include<stdio.h>
main(){
    int n1=0,n2=1,n3,num,i;
    printf("Enter the number :");
    scanf("%d",&num);
    //printf("\n%d%d\n",n1,n2);
    for(i=2;i<num;++i)
    {
        n3=n1+n2;
        printf("\n%d",n3);
        n1=n2;
        n2=n3;
    }
}
```

Output:



The screenshot shows a Windows command prompt window with the title bar "C:\Users\user\OneDrive\Documents\C programming\fibonacci.exe". The prompt displays "Enter the number :15". Below this, the Fibonacci series is printed line by line: 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, and 377.

```
C:\Users\user\OneDrive\Documents\C programming\fibonacci.exe
Enter the number :15
1
2
3
5
8
13
21
34
55
89
144
233
377
```

13. WAP to print number in reverse order

Code:

```
#include <stdio.h>

int main(){

    int Num, rev_Num = 0, remainder;

    printf("Enter the number to reverse: ");

    scanf("%d", &Num);

    while (Num != 0){

        remainder = Num % 10;

        rev_Num = rev_Num * 10 + remainder;

        Num = Num/10;

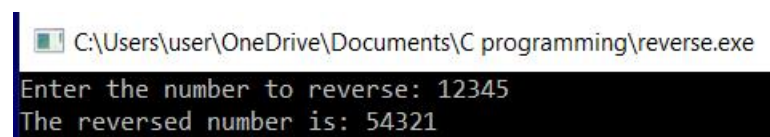
    }

    printf("The reversed number is: %d", rev_Num);

    return 0;

}
```

Output:



The screenshot shows a Windows command prompt window with the title bar "C:\Users\user\OneDrive\Documents\C programming\reverse.exe". The prompt displays the input "Enter the number to reverse: 12345" and the output "The reversed number is: 54321".

14. Write a program to find out the max from given number.

Code:

```
#include <stdio.h>
int main()
{
    int a = 5, b = 4, c = 3 ,d = 7;

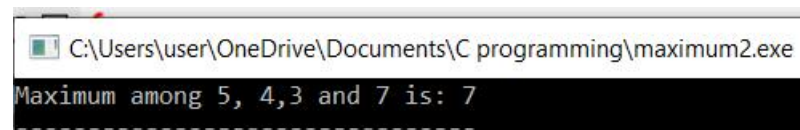
    // temporary variable
    int max = d;

    if (max < b)
        max = b;
    if (max < c)
        max = c;
    if (max < a)
        max = a;

    printf("Maximum among %d, %d,%d and %d is: %d", a, b,
c,d,max);

    return 0;
}
```

Output:



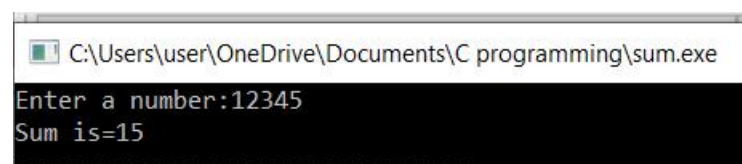
```
C:\Users\user\OneDrive\Documents\C programming\maximum2.exe
Maximum among 5, 4,3 and 7 is: 7
```

15. Write a program make a summation of given number

Code:

```
#include<stdio.h>
main()
{
    int n,sum=0,m;
    printf("enter the value :");
    scanf("%d",&n);
    while(n>0)
    {
        m=n%10;
        sum=sum+m;
        n=n/10;
    }
    printf("sum is =%d",sum);
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\sum.exe
Enter a number:12345
Sum is=15
```

16. Write a program you have to make a summation of first and last Digit.

Code:

```
#include <stdio.h>

int main()
{
    int num, sum=0, firstDigit, lastDigit;

    printf("Enter any number to find sum of first and last digit: ");
    scanf("%d", &num);

    lastDigit = num % 10;

    firstDigit = num;

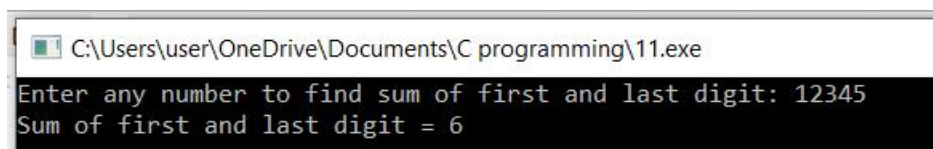
    while(num >= 10)
    {
        num = num / 10;
    }
    firstDigit = num;

    sum = firstDigit + lastDigit;

    printf("Sum of first and last digit = %d", sum);

    return 0;
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\11.exe
Enter any number to find sum of first and last digit: 12345
Sum of first and last digit = 6
=====
```

17. Pattern-1

Code:

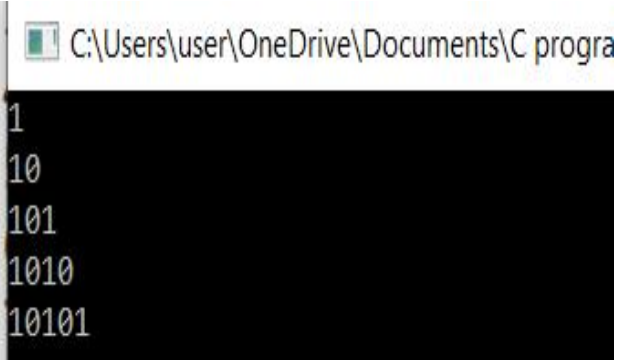
```
#include <stdio.h>

int main() {
    int i, j;

    for (i = 1; i <= 5; i++) {
        for (j = 1; j <= i; j++) {
            if (j % 2 == 0) {
                printf("0");
            } else {
                printf("1");
            }
        }
        printf("\n");
    }

    return 0;
}
```

Output:



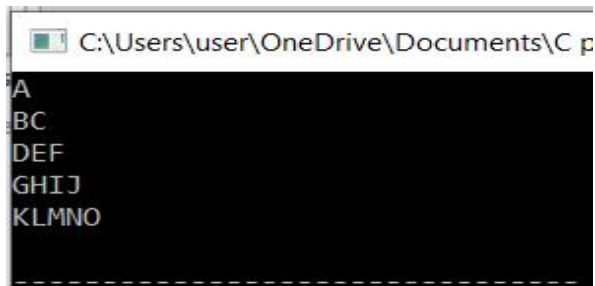
```
C:\Users\user\OneDrive\Documents\C progra
1
10
101
1010
10101
```

18. Pattern-2

Code:

```
#include<stdio.h>
main(){
    int i,j;
    char ch ='A';
    for(i=1;i<=5;i++){
        for(j=1;j<=i;j++){
            printf("%c",ch);
            ch++;
        }
        printf("\n");
    }
}
```

Output:



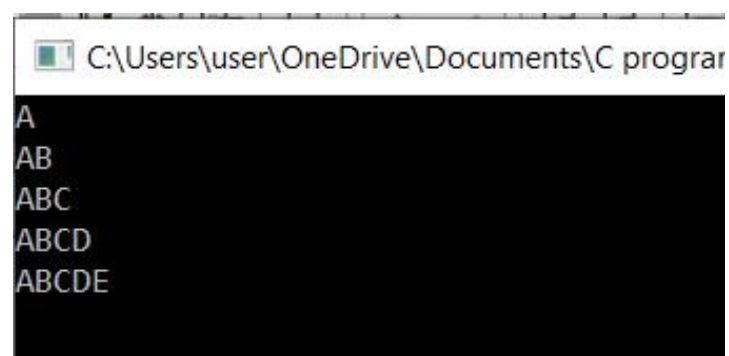
```
A
BC
DEF
GHIJ
KLMNO
```

19. Pattern -3

Code:

```
#include <stdio.h>
int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%c",'A' + j-1);
        }
        printf("\n");
    }
    return 0;
}
```

Output:



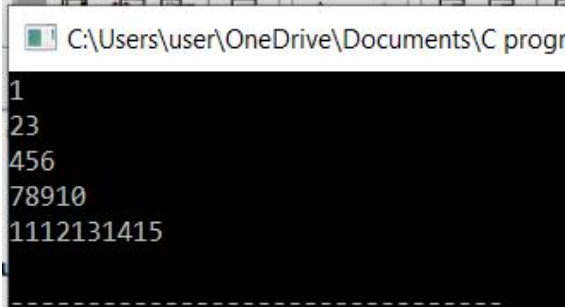
```
C:\Users\user\OneDrive\Documents\C program
A
AB
ABC
ABCD
ABCDE
```


20. Pattern -4

Code:

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

Output:



A screenshot of a Windows command prompt window. The title bar shows the file path: C:\Users\user\OneDrive\Documents\C progr. The command prompt displays the output of the C program, which is a triangular pattern of numbers. The first row contains '1', the second row contains '23', the third row contains '456', the fourth row contains '78910', and the fifth row contains '1112131415'. The numbers are printed in a single line per row, with no spaces between them. The output is displayed on a black background with white text.

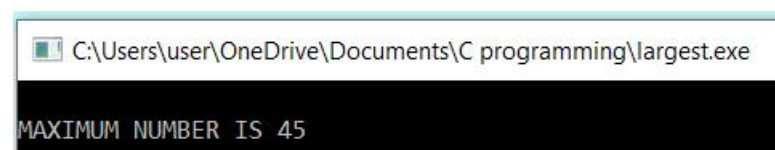
MODULE: 3.3 (File Handling and Debugging)

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

Code:

```
#include <stdio.h>
#include <conio.h>
max(int [],int);
void main()
{
    int a[]={10,5,45,12,19};
    int n=5,m;
    m=max(a,n);
    printf("\nMAXIMUM NUMBER IS %d",m);
}
max(int x[],int k)
{
    int t,i;
    t=x[0];
    for(i=1;i<k;i++)
    {
        if(x[i]>t)
            t=x[i];
    }
    return(t);
}
```

Output:



The screenshot shows a Windows command prompt window with the title bar "C:\Users\user\OneDrive\Documents\C programming\largest.exe". The command prompt displays the output "MAXIMUM NUMBER IS 45" on a black background with white text.

22. WAP of Addition, Subtraction, Multiplication and Division using Switch case.(Must Be Menu Driven).

Code:

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

```
int main()  
{
```

```
    int a, b;  
    char choice;
```

```
    printf("Enter your choice\n");  
    printf("a. Addition\nb. Subtraction\nc. Multiplication\nd.  
Division\n");  
    scanf("%c", &choice);
```

```
    printf("Enter 2 integer numbers\n");  
    scanf("%d %d", &a, &b);
```

```
    switch(choice)  
    {
```

```
        case 'a': printf("%d + %d = %d\n", a, b, (a+b));  
                break;
```

```
        case 'b': printf("%d - %d = %d\n", a, b, (a-b));  
                break;
```

```
        case 'c': printf("%d x %d = %d\n", a, b, (a*b));  
                break;
```

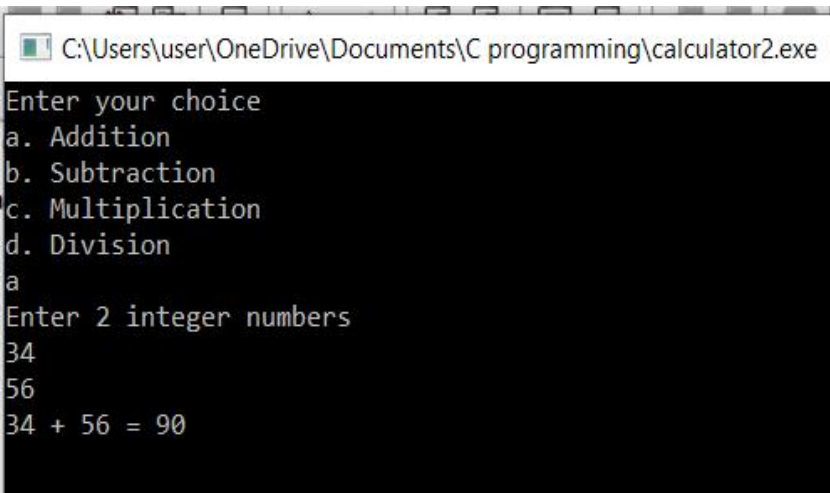
```
        case 'd': if( b != 0)
```

```
        printf("%d / %d = %d\n", a, b, (a/b));
    else
        printf("Number can't be divided by 0\n");
        break;

    default: printf("You entered wrong choice\n");
        break;
}

return 0;
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\calculator2.exe
Enter your choice
a. Addition
b. Subtraction
c. Multiplication
d. Division
a
Enter 2 integer numbers
34
56
34 + 56 = 90
```

23. WAP to find reverse of string using recursion.

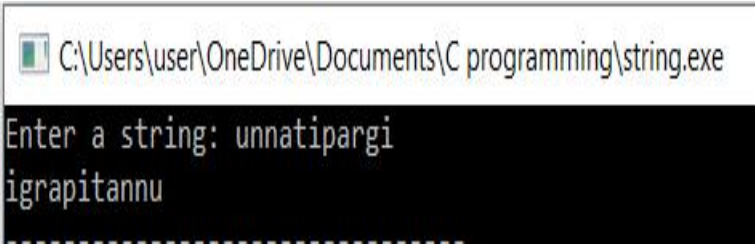
Code:

```
#include <stdio.h>

void reverse();
int main() {
    printf("Enter a string: ");
    reverse();
    return 0;
}

void reverse() {
    char c;
    scanf("%c", &c);
    if (c != '\n') {
        reverse();
        printf("%c", c);
    }
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\string.exe
Enter a string: unnatipargi
igrapitannu
```

24. WAP to find factorial using recursion.

Code:

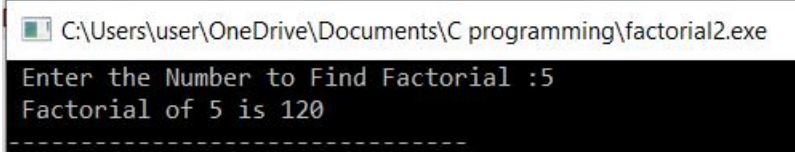
```
#include<stdio.h>

int fact(int);
int main()
{
    int x,n;
    printf(" Enter the Number to Find Factorial :");
    scanf("%d",&n);

    x=fact(n);
    printf(" Factorial of %d is %d",n,x);

    return 0;
}
int fact(int n)
{
    if(n==0)
        return(1);
    return(n*fact(n-1));
}
```

Output:



C:\Users\user\OneDrive\Documents\C programming\factorial2.exe
Enter the Number to Find Factorial :5
Factorial of 5 is 120

25. WAP to take two Array input from user and sort them in ascending or descending order as per user's choice.

Code:

```
#include <stdio.h>
void main (){
    int num[20];
    int i, j, a, n;
    printf("enter number of elements in an array");
    scanf("%d", &n);

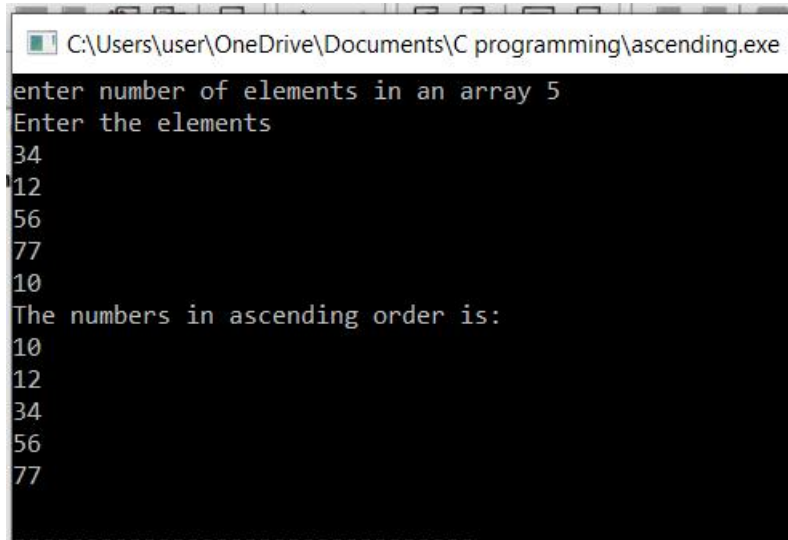
    printf("Enter the elements\n");

    for (i = 0; i < n; ++i)
        scanf("%d", &num[i]);

    for (i = 0; i < n; ++i){
        for (j = i + 1; j < n; ++j){

            if (num[i] > num[j]){
                a = num[i];
                num[i] = num[j];
                num[j] = a;
            }
        }
    }
    printf("The numbers in ascending order is:\n");
    for (i = 0; i < n; ++i){
        printf("%d\n", num[i]);
    }
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\ascending.exe
enter number of elements in an array 5
Enter the elements
34
12
56
77
10
The numbers in ascending order is:
10
12
34
56
77
-----
```


26. WAP to make addition, Subtraction and multiplication of two matrix using 2-D Array

Code:

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

```
void addMatrix(int mat1[][3], int mat2[][3], int result[][3], int
rows, int cols) {
    for (int i = 0; i < rows; i++) {
        for (int j = 0; j < cols; j++) {
            result[i][j] = mat1[i][j] + mat2[i][j];
        }
    }
}
```

```
void subtractMatrix(int mat1[][3], int mat2[][3], int result[][3],
int rows, int cols) {
    for (int i = 0; i < rows; i++) {
        for (int j = 0; j < cols; j++) {
            result[i][j] = mat1[i][j] - mat2[i][j];
        }
    }
}
```

```
void multiplyMatrix(int mat1[][3], int mat2[][3], int result[][3],
int rows1, int cols1, int cols2) {
    for (int i = 0; i < rows1; i++) {
        for (int j = 0; j < cols2; j++) {
            result[i][j] = 0;
            for (int k = 0; k < cols1; k++) {
                result[i][j] += mat1[i][k] * mat2[k][j];
            }
        }
    }
}
```

```

    }
  }
}

```

```

int main() {
    int mat1[3][3] = {{1, 2, 3}, {4, 5, 6}, {7, 8, 9}};
    int mat2[3][3] = {{9, 8, 7}, {6, 5, 4}, {3, 2, 1}};
    int result[3][3];

    int rows1 = 3, cols1 = 3, rows2 = 3, cols2 = 3;

    addMatrix(mat1, mat2, result, rows1, cols1);
    printf("Matrix Addition:\n");
    for (int i = 0; i < rows1; i++) {
        for (int j = 0; j < cols1; j++) {
            printf("%d ", result[i][j]);
        }
        printf("\n");
    }

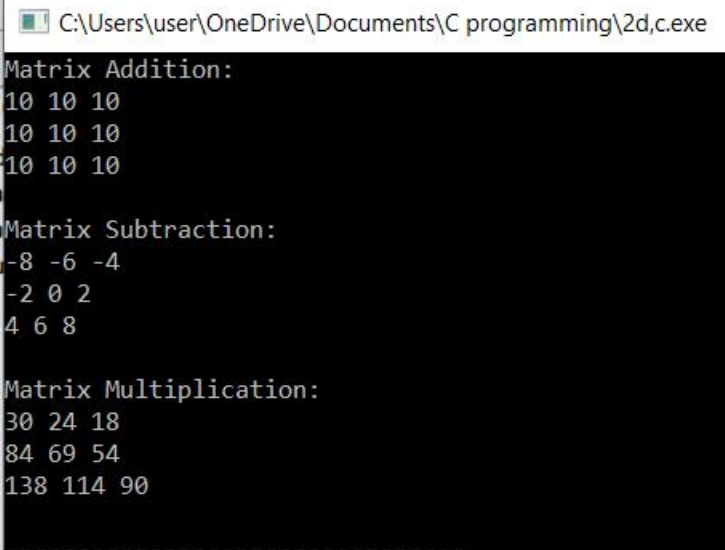
    subtractMatrix(mat1, mat2, result, rows1, cols1);
    printf("\nMatrix Subtraction:\n");
    for (int i = 0; i < rows1; i++) {
        for (int j = 0; j < cols1; j++) {
            printf("%d ", result[i][j]);
        }
        printf("\n");
    }

    multiplyMatrix(mat1, mat2, result, rows1, cols1, cols2);
    printf("\nMatrix Multiplication:\n");
    for (int i = 0; i < rows1; i++) {
        for (int j = 0; j < cols2; j++) {
            printf("%d ", result[i][j]);
        }
    }
}

```

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

Output:



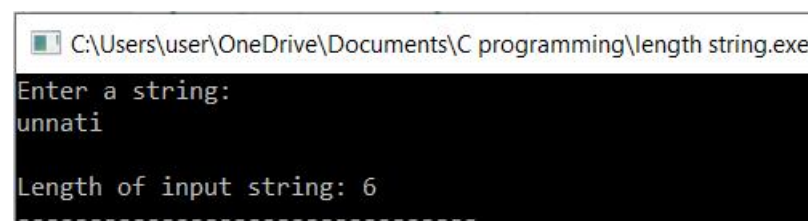
```
C:\Users\user\OneDrive\Documents\C programming\2d,c.exe  
Matrix Addition:  
10 10 10  
10 10 10  
10 10 10  
Matrix Subtraction:  
-8 -6 -4  
-2 0 2  
4 6 8  
Matrix Multiplication:  
30 24 18  
84 69 54  
138 114 90
```

27. WAP Find out length of string without using inbuilt function.

Code:

```
#include<stdio.h>
#include<string.h>
main()
{
    char name[20],name1[20];
    printf("Enter your name here:");
    //scanf("%s",&name);
    gets(name);
    printf("Enter your name1 here:");
    scanf("%s",&name1);
    printf("This is your length of name %d \n",strlen(name));
    printf("This is your length of name1 %d
\n",strlen(name1));
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\length string.exe
Enter a string:
unnati

Length of input string: 6
-----
```

28. Write a program of structure employee that provides the following information -print and display empno, empname, address and age.

Code:

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

struct Employee {
    int empno;
    char empname[50];
    char address[100];
    int age;
};

int main() {

    struct Employee emp;

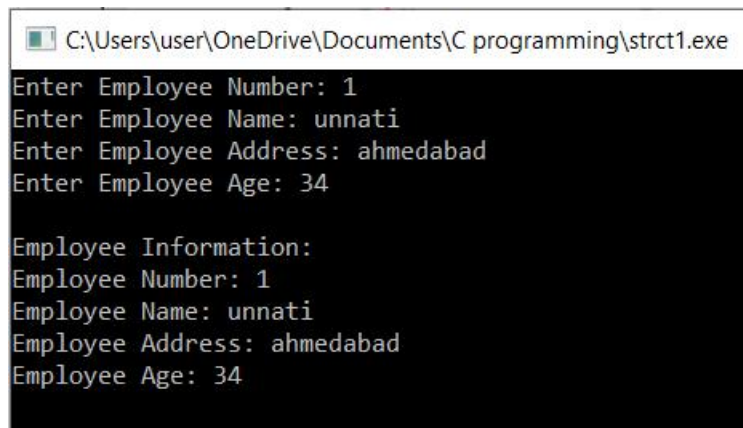
    printf("Enter Employee Number: ");
    scanf("%d", &emp.empno);
    printf("Enter Employee Name: ");
    scanf("%s", emp.empname);
    printf("Enter Employee Address: ");
    scanf(" %s", emp.address);
    printf("Enter Employee Age: ");
    scanf("%d", &emp.age);

    printf("\nEmployee Information:\n");
    printf("Employee Number: %d\n", emp.empno);
    printf("Employee Name: %s\n", emp.empname);
    printf("Employee Address: %s\n", emp.address);
```

```
printf("Employee Age: %d\n", emp.age);

return 0;
}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\strct1.exe
Enter Employee Number: 1
Enter Employee Name: unnati
Enter Employee Address: ahmedabad
Enter Employee Age: 34

Employee Information:
Employee Number: 1
Employee Name: unnati
Employee Address: ahmedabad
Employee Age: 34
```

29. Write a program of structure for five employee that provides the following information -print and display empno, empname, address and age.

Code:

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

struct Employee {
    int empno;
    char empname[50];
    char address[100];
    int age;
};

int main() {
    struct Employee employees[5];
    int i;

    for ( i = 0; i < 5; i++) {
        printf("Enter Employee Number for Employee %d: ", i + 1);
        scanf("%d", &employees[i].empno);
        printf("Enter Employee Name for Employee %d: ", i + 1);
        scanf("%s", employees[i].empname);
        printf("Enter Employee Address for Employee %d: ", i + 1);
        scanf(" %[^\n]s", employees[i].address);
        printf("Enter Employee Age for Employee %d: ", i + 1);
        scanf("%d", &employees[i].age);
    }

    printf("\nEmployee Information for Five Employees:\n");
    for (i = 0; i < 5; i++) {
        printf("Employee %d:\n", i + 1);
```

```
        printf("Employee Number: %d\n", employees[i].empno);
        printf("Employee Name: %s\n", employees[i].empname);
        printf("Employee Address: %s\n", employees[i].address);
        printf("Employee Age: %d\n", employees[i].age);
        printf("\n");
    }

    return 0;
}
```

Output:

```
Employee Information for Five Employees:
Employee 1:
Employee Number: 1
Employee Name: unnati
Employee Address: ahmedabad
Employee Age: 23

Employee 2:
Employee Number: 2
Employee Name: yash
Employee Address: mehsana
Employee Age: 20

Employee 3:
Employee Number: 3
Employee Name: manvi
Employee Address: gandhinagar
Employee Age: 25

Employee 4:
Employee Number: 4
Employee Name: komal
Employee Address: dahod
Employee Age: 26
```


30. WAP to show difference between Structure and Union.

Code:

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

struct Employee
{
    int age;
    char Name[50];
    char Department[20];
    float Salary;
};


union Person
{
    int age;
    char Nam[50];
    char Departent[20];
    float Salary;
};

int main()
{
    struct Employee emp1;
    union Person Person1;

    printf(" The Size of Employee Structure = %d\n", sizeof
(emp1) );
    printf(" The Size of Person Union = %d\n", sizeof (Person1));

    return 0;
}
```

Output:

 C:\Users\user\OneDrive\Documents\C programming\union3.exe

```
The Size of Employee Structure = 80  
The Size of Person Union = 52
```

31. WAP to reverse a string and check that the string is palindrome or not.

Code:

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

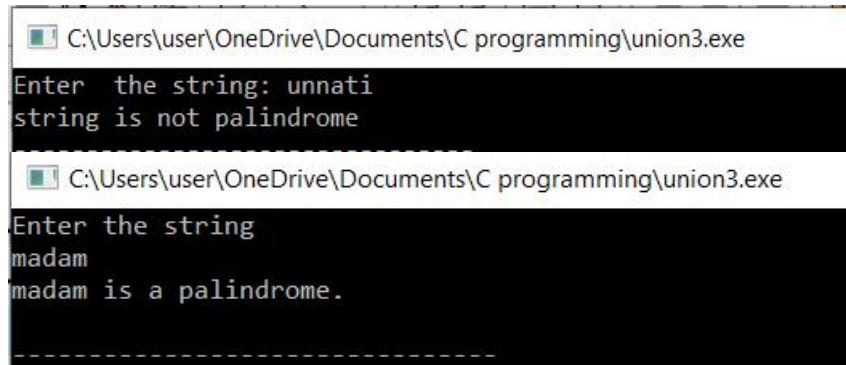
int main()
{
    char string1[1000],string2[1000];

    printf("Enter the string: ");
    gets(string1);
    strcpy(string2,string1);
    strrev(string2);
    if(!strcmp(string1,string2))
        printf("string is palindrome");
    else
        printf("string is not palindrome");

    return 0;

}
```

Output:



```
C:\Users\user\OneDrive\Documents\C programming\union3.exe
Enter the string: unnati
string is not palindrome

C:\Users\user\OneDrive\Documents\C programming\union3.exe
Enter the string
madam
madam is a palindrome.
-----
```