# KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed University Established Under Section 3 of UGC Act 1956)

Coimbatore - 641021.

(For the candidates admitted from 2017 onwards)

**DEPARTMENT OF COMPUTER SCIENCE,CA &IT**

**SUBJECT : PROGRAMMING FUNDAMENTALS USING C/C++ LAB**
**SEMESTER : I** **L T P C**
**SUBJECT CODE: 17CSU111 CLASS : I B.Sc.CS A** **0 0 0 2**

## LIST OF PROGRAMS

1. WAP to print the sum and product of digits of an integer.

2. WAP to reverse a number.

3. WAP to compute the sum of the first n terms of the following series S = 1+1/2+1/3+1/4+……

4. WAP to compute the sum of the first n terms of the following series S =1-2+3-4+5…….

5. Write a function that checks whether a given string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.

6. Write a function to find whether a given no. is prime or not. Use the same to generate the prime numbers less than 100.

7. Write a macro that swaps two numbers. WAP to use it.

8. WAP to print a triangle of stars as follows (take number of lines from user):

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

9. WAP to perform following actions on an array entered by the user:

   i) Calculate and print the sum and average of the elements of array

ii) Print the maximum and minimum element of array

10. Write a program to find sum of n elements entered by the user. To write this program, allocate memory dynamically using malloc() / calloc() functions or new operator.

11. WAP to display FibonaCSUi series (i)using recursion

12. WAP to calculate Factorial of a number (i)using recursion

13. WAP to calculate GCD of two numbers (i) with recursion

14. Create a class Triangle. Include overloaded functions for calculating area. Overload assignment operator and equality operator.

15. Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.

16. Copy the contents of one text file to another file, after removing all whitespaces.

17. Given two ordered arrays of integers, write a program to merge the two-arrays to get an ordered array.

18. Write a menu driven program to perform following operations on strings:
    a) Show address of each character in string

    b) Concatenate two strings without using strcat function.

    c) Concatenate two strings using strcat function.

    d) Compare two strings

    e) Calculate length of the string (use pointers)

## EX.NO:1 SUM AND PRODUCT OF DIGITS

### AIM

To write a C++ program to print sum and product of digits of an integer.

### ALGORITHM

**STEP 1 :** Start the program.

**STEP 2 :** To get the input for a number with more than 1 digit.

**STEP 3 :** Extract the digits of the number using modulo division.

**STEP 4 :** Find the product of the digits.

**STEP 5 :** Find the sum of digits.

**STEP 6 :** Print the product and sum.

**STEP 7 :** Stop the program.

## SUM AND PRODUCT OF DIGITS

```
#include<iostream.h>
#include<conio.h>
void main()
{
int n;
int sum=0,product=1;
clrscr();
cout<<"\n PROGRAM TO CALCULATE SUM AND PRODUCT OF DIGITS";
cout<<"\n ******* ** ********* *** *** ******* ** ******";
cout<<"\n\n Enter the digits:";
cin>>n;
while(n!=0)
{
sum=sum+n%10;
product=product*(n%10);
n=n/10;
}
cout<<"\n SUM of all digits is:"<<sum;
cout<<"\n PRODUCT of all digits is:"<<product;
getch();
}
```

OUTPUT:

PROGRAM TO CALCULATE SUM AND PRODUCT OF DIGITS
********** *** ********** **** **** ********* ** *******

Enter the digits : 543

SUM Of all The digits is : 12

PRODUCT of all digits : 60

Result:

The above program has been executed successfully and the output is verified.

## EX.NO:2 REVERSE A NUMBER

### AIM

To write a C++ program to reverse a number.

### ALGORITHM

**STEP 1 :** Start the program.

**STEP 2 :** Get the input for a number.

**STEP 3 :** Start a loop and continue until the number becomes 0.

**STEP 4 :** Extracts the digits using integer division and calculate the reverse of the number.

**STEP 5 :** Print the reversed number.

**STEP 6 :** Stop the program.

## REVERSE A NUMBER

```
#include<iostream.h>
#include<conio.h>
void main()
{
int n;
int reverse=0;
clrscr();
cout<<"\n REVERSE A NUMBER";
cout<<"\n ******* * ******";
cout<<"\n\n Enter the digits:";
cin>>n;
while(n!=0)
{
reverse=reverse*10;
reverse=reverse+n%10;
n=n/10;
}
cout<<"\n REVERSE OF ENTERED NUMBER IS :"<<reverse;
getch();
}
```

## OUTPUT:

REVERSE A NUMBER
********* * *********

Enter a digits :123

REVERSE OF ENTERED NUMBER IS :321

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:3** **SUM OF SERIES [1+1/2+1/3+1/4+1/5….]**

## AIM

To compute the sum of the first n terms of the following series: 1+1/2+1/3+1/4+1/5….

## ALGORITHM

STEP 1 : Start the program.

STEP 2 : Get the input for a number

STEP 3: declare the if statement

if(i==n)

else if(i==n)

STEP 4: compile the program by pressing keys ALT+F9

STEP 5: Run the program by pressing keys CTRL+F9

STEP 6: Execute the program

STEP 7: The output is verified.

## SUM OF SERIES [1+1/2+1/3+1/4+1/5….]

```
#include<iostream.h>
#include<conio.h>
void main()
{
double n,sum=0,i;
clrscr();
cout<<"\n\t\t SUM OF SERIES:";
cout<<"\n\t\t*****************";
cout<<"\n\n Please give the value of N:";
cin>>n;
for(i=1;i<=n;i++)
{
sum=sum+(1/i);
if(i==1)
cout <<"\n 1+";
else if(i==n)
cout<<"(1"<<"/"<<i<<")"<<"+";
else
cout<<"(1"<<"/"<<i<<")"<<"+";
}
cout<<"\n\n THE SUM OF THIS SERIES IS: "<<sum;
getch();
}
```

## OUTPUT:

SUM OF SERIES

**********

Please give the value of N : 5

(1+1/2+1/3+1/4+1/5…….)

THE SUM OF THIS SERIES IS : 2.283333

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:4** **COMPUTE THE SERIES**

**[1-2+3-4+5….]**

## AIM:

To write a C++ program to compile the sum of series S=1-2+3-4+5

## ALGORITHM:

**STEP 1 :** Start the program.

**STEP 2 :** Get the input for a number

**STEP3**: Declare the statement as

```
For(i=1;i<=n;i++)
{
If(i%2==0)
Even=even+i
Odd=odd+i
```

**STEP 4:** Compile the program by pressing keys ALT+F9

**STEP 5:** Run the program by pressing keys CTRL+F9

**STEP 6:** Execute the program

**STEP 7:** The output is verified.

## COMPUTE THE SERIES

## [1-2+3-4+5….]

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
int evens=0,odds=0;
int n,i,c;
cout<<"\n COMPUTE THE SERIES S=1-2+3-4+5";
cout<<"\n ********************************";
cout<<"\n\n\n Enter the no of  terms:";
cin>>n;
for(i=1;i<=n;i++)
{
if(i%2==0)
evens=evens+i;
else
odds=odds+i;
}
c=odds-evens;
cout<<"\n\n The result is:"<<c;
getch();
}
```

**OUTPUT:**

```
COMPUTE THE SERIES S=1-2+3-4+5
**********************************

Enter the no of  terms      : 5
The result is               : 3
```

Result:

The above program has been executed successfully and the output is verified

**EX.NO:5** **PALINDROME USING FUNCTIONS**

## AIM

To write a C++ program that checks whether a given string is palindrome or not.

## ALGORITHM

**STEP 1 :** Start the program.

**STEP 2 :** Declare two character arrays a & b.

**STEP 3 :** Get the input string in a.

**STEP 4** : Copy the string a to string b.

**STEP 5 :** Reverse the string b using strrev function.

**STEP 6 :** Compare the two strings a and b.

**STEP 7 :** If the a = b then print the result as "Palindrome".

**STEP 8 :** If the string a is not equal to string b then print the result as "Not a Palindrome".

**STEP 9 :** Stop the program.

## PALINDROME USING FUNCTIONS

```
#include<iostream.h>
#include<conio.h>
#include<string.h>
void check(char[],int);
void main()
{
char word[15];
clrscr();
cout<<"\n\n PALINDROME USING FUNCTION:";
cout<<"\n**************************";
cout<<"\n\n Enter a word to check if it is a palindrome\n";
cin>>word;
check(word,0);
getch();
}
void check(char word[],int index)
{
int len=strlen(word)-(index+1);
if(word[index]==word[len])
{
if(index+1==len||index==len)
{
cout<<"\n The entered word is a palindrome\n";
return;
}
check(word,index+1);
}
else
{
cout<<"\n The entered word is not a palindrome\n";
}
}
```

OUTPUT:

PALINDROME USING FUNCTION
**********

Enter a word to check if it is a palindrome : Malayalam

The entered word is a palindrome

Enter a word to check if it is a palindrome : welcome

The entered word is not a palindrome

Result:

The above program has been executed successfully and the output is verified.

**EX.NO:6** **PRIME NUMBER USING FUNCTION**

## AIM

To write a C++ program to generate the prime numbers from 1 to100.

## ALGORITHM

**STEP 1 :** Start the program.

**STEP 2 :** Initialize the necessary variables.

**STEP 3 :** Implement a loop from 2 to 100.

**STEP 4 :** Find whether the number is divisible by itself and 1.

**STEP 5 :** If the remainder is 0 assign 1 to the variable isprime.

**STEP 6 :** If isprime = 0 print the number.

**STEP 7 :** Stop the program.

## PRIME NUMBER USING FUNCTION

```
#include<iostream.h>
#include<conio.h>
int check_prime(int num);
void main()
{
int n1,n2,i,flag;
clrscr();
cout<<"\n\n PRIME NUMBER USING FUNCTIONS\n";
cout<<"\n**************************";
cout<<"\n Enter two number (intervals):";
cin>>n1>>n2;
cout<<"\n Prime number between"<< n1<<"and"<< n2<<"are:"<<endl;
for(i=n1+1;i<n2;++i)
{
flag=check_prime(i);
if(flag==0)
cout<<i<<endl;
}
getch();
}
int check_prime(int num)
{
int j,flag=0;
for(j=2;j<=num/2;++j)
{
if(num%j==0)
{
flag=1;
break;
}
}
return flag;
}
```

OUTPUT:

```
PRIME NUMBER USING FUNCTION
*******************************

Enter two number (intervals)        : 2  8

Prime number between 2 and 8 are :
3
5
7
```

Result:

The above program has been executed successfully and the output is verified.

**EX.NO:7** **SWAPPING OF TWO NUMBERS**

## AIM

To write the program to swap two numbers

## ALGORITHM

STEP 1: Start the program

STEP 2: Get the input for a number

STEP 3: Enter the header file ,main function,and declare the variable

STEP 4: Declare the statement that

Temp=a

A=b

B=temp

STEP 5: Compile the program by pressing keys ALT+F9

STEP 6: Run the program by pressing keys CTRL+F9

STEP 7: Execute the program

STEP 8: The output is verified.

## SWAPPING OF TWO NUMBERS

```
#include<iostream.h>
#include<conio.h>
void main()
{
int a,b,temp;
clrscr();
cout<<"\n SWAPPING OF TWO NUMBERS:";
cout<<"\n************************";
cout<<"\n Enter any two numbers:";
cin>>a>>b;
cout<<"\n Before Swapping:";
cout<<"\n A="<<a<<",B="<<b;
temp=a;
a=b;
b=temp;
cout<<"\n After Swapping:";
cout<<"\n A="<<a<<",B="<<b;
getch();
}
```

OUTPUT:

```
                SWAPPING OF TWO NUMBERS
                ******************************
Enter any two numbers    : 2  3

Before Swapping

A=2 ,B=3

After Swapping

A=3 ,B=2
```

Result:

The above program has been executed successfully and the output is verified.

**EX.NO:8** **TRIANGLE OF STARS**

## AIM

To write a C++ program to print a triangle of stars.

## ALGORITHM

**STEP 1 :** Start the program.

**STEP 2 :** Get the input for number of lines.

**STEP 3 :** Start the first loop till the required number of the lines of stars are printed.

**STEP 4 :** Start a nested loop that prints odd number of stars in each line.

**STEP 5 :** Stop the program.

## TRIANGLE OF STARS

```
#include<iostream.h>
#include<conio.h>
void main()
{
int i,n,j;
clrscr();
cout<<"\n please give the value of N: ";
cin>>n;
cout<<"\n \t TRIANGLE";
cout<<"\n \t ********\n\n\n";
for(i=1;i<=n;i++)
{
for(j=1;j<n-i;j++)
cout<<" ";
for(j=1;j<=2*i-1;j++)
cout<<"*";
cout<<"\n";
}
getch();
}
```

OUTPUT:

```
please give the value of N   : 5

                    TRIANGLE
                    **********

                         *

                       * * *

                     * * * * *

                   * * * * * * *

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

Result:

The above program has been executed successfully and the output is verified.

**EX.NO:9 SMALLEST, LARGEST, SUM AND AVERAGE USING ARRAY**

## AIM:

To write a C++ program to find smallest, largest, sum, average using array

## ALGORITHM:

STEP 1: Start the program

STEP 2: Get the input values

STEP 3: Declare the variable N

STEP4: Check the condition

If(a[i]<small)

If(a[i]>large)

STEP 5: Display the factorial of n number for given the value of N

STEP 6: Compile the program by pressing keys ALT+F9

STEP 7: Run the program by pressing keys CTRL+F9

STEP 8: Execute the program

STEP 9: The output is verified**.**

## SMALLEST, LARGEST, SUM AND AVERAGE USING ARRAY

```
#include<iostream.h>
#include<conio.h>
void main()
{
int arr[100],n,i,small,large,sum=0,avg;
clrscr();
cout<<"\n SMALLEST,LARGEST,SUM AND AVERAGE USING ARRAY";
cout<<"\n ******** ******** *** *** ******* ***** *****";
cout<<"\n\n Enter number of element you want to insert:";
cin>>n;
for(i=1;i<=n;i++)
{
cout<<"\n Enter element"<<i<<":";
cin>>arr[i];
}
small=arr[0];
large=arr[0];
for(i=0;i<n;i++)
{
if(arr[i]<small)
small=arr[i];
if(arr[i]<large)
large=arr[i];
sum=sum+arr[i];
avg=sum/n;
}
cout<<"\n\n Largest element is  :"<<large;
cout<<"\n\n smallest element is :"<<small;
cout<<"\n\n sum of an array is  :"<<sum;
cout<<"\n\n Average of array is :"<<avg;
getch();
}
```

OUTPUT:

```
SMALLEST,LARGEST,SUM AND AVERAGE USING ARRAY
********** ********* *** ***  ********** ****** ******

Enter number of element you want to insert : 5

Enter element 1: 8
Enter element 2: 3
Enter element 3: 5
Enter element 4: 12
Enter element 5: 2

Largest element is    : 12
smallest element is   : 2
sum of an array is  : 30
Average of array is :6
```

Result:

The above program has been executed successfully and the output is verified.

**EX.NO:10 FIBONOCCI SERIES USING RECURSION**

## AIM

To write a C++ program to display Fibonacci series using recursion.

## ALGORITHM

**STEP 1:** Start the program.

**STEP 2:** Declare the necessary variables.

**STEP 3:** Get the input for number of terms.

**STEP 4:** Print the first two terms.

**STEP 5:** Call the function printfibonacci().

**STEP 6:** If (n>0) call the function recursively to print the remaining terms.

**STEP 7:** Stop the program

## FIBONOCCI SERIES USING RECURSION

```
#include<iostream.h>
#include<conio.h>
int fibonacci(int n)
{
if((n==1)||(n==0))
{
return(n);
}
else
{
return(fibonacci(n-1)+fibonacci(n-2));
}
}
void main()
{
int n,i=0;
clrscr();
cout<<"\nFIBBONACCI SERIES USING RECURSION";
cout<<"\n ******** ******* ***** **********";
cout<<"\n\n input the number of terms for fibonacci series:";
cin>>n;
while(i<n)
{
cout<<"\n"<<fibonacci(i);
i++;
}
getch();
}
```

## OUTPUT:

```
                FIBBONACCI SERIES USING RECURSION
                ********** ******* ***** **********

Input the number of terms for fibonacci series: 7
0
1
1
2
3
5
8
```

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:11** **FACTORIAL USING RECURSION**

## AIM:

To write the function to check the factorial number

## ALGORITHM:

STEP 1: Start the program

STEP 2: Get the input values

STEP 3: Enter the header file to the main function int factorial (int);

STEP 4: Declare the statement is

```
If(num==0!! Num==1)
Return(num*factorial(num-1));
```

STEP 5: Compile the program by pressing keys ALT+F9

STEP 6: Run the program by pressing keys CTRL+F9

STEP 7: Execute the program

STEP 8: The output is verified.

## FACTORIAL USING RECURSION

```
#include<iostream.h>
#include<conio.h>
int factorial(int n);
void main()
{
int n;
clrscr();
cout<<"\n\n FACTORIAL USING RECURSION \n";
cout<<"********** ******* ********** \n\n";
cout<<"\n Enter a positive integer:";
cin>>n;
cout<<"\n\n factorial of"<< n <<"="<<factorial(n);
getch();
}
int factorial(int n)
{
if(n!=1)
n=n*factorial(n-1);
return n;
}
```

## OUTPUT:

```
                    FACTORIAL USING RECURSION
                    ********** ******* ************

Enter a positive integer :  5

factorial of 5              : 120
```

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:12** **STRUCTURES**

**AIM:**

To create a structure for 10 students and store them in a file.

**ALGORITHM:**

**STEP 1:** Start the program.

**STEP 2:** Declare a structure called student with name, roll number and Marks.

**STEP 3:** Create an array of type student to store the details of 10 Students

**STEP 4:** Using loop get the input for roll number, name and mark for each students.

**STEP 5:** Display the details of 10 students.

**STEP 6:** Stop the program.

## STRUCTURES

```
#include<iostream.h>
#include<conio.h>
struct stud
{
int rollno,s1,s2,s3,tot;
char name[10];
float avg;
}s[10];
void main()
{
int i,n;
clrscr();
cout<<"\n\n ENTER THE NUMBER OF STUDENT:";
cin>>n;
for(i=0;i<n;i++)
{
cout<<"\n Enter the roll number:";
cin>>s[i].rollno;
cout<<"\n Enter the name:";
cin>>s[i].name;
cout<<"\n Enter the marks in 3 subject:";
cin>>s[i].s1>>s[i].s2>>s[i].s3;
s[i].tot=s[i].s1+s[i].s2+s[i].s3;
s[i].avg=s[i].tot/3.0;
}
cout<<"Roll \tName \tsub1 \tsub2 \tsub3 \ttotal \tAverage\n\n";
for(i=0;i<n;i++)
{
cout<<s[i].rollno<<"\t"<<s[i].name<<"\t"<<s[i].s1<<"\t"<<s[i].s2<<"\t"<<s[i].s3<
<"\t"<<s[i].tot<<"\t"<<s[i].avg<<"\n";
}
getch();
}
```

## OUTPUT:

```
ENTER THE NUMBER OF STUDENT : 2
Enter the roll number       : 17csu061
Enter the name              : priya
Enter the marks in 3 subject:41 39 39

Enter the roll number       : 17csu063
Enter the name              : divya
Enter the marks in 3 subject:40 50 60
```

| Rollno | Name | sub 1 | sub 2 | sub 3 | Total | Average |
|---|---|---|---|---|---|---|
| 17csu061 | priya | 41 | 39 | 39 | 117 | 50 |
| 17csu063 | divya | 40 | 50 | 60 | 150 | 80 |

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:13** **GCD USING RECURSION**

## AIM:

To write a C++ program to find the greatest common divisor using recursion.

## ALGORITHM:

**STEP 1:** Start the program.

**STEP 2:** Type CMD and RUN the program.

**STEP 3:** Type the declaration of header files int gcd (int n,int m) set file.

**STEP 4:** Get the input statement int n,m, result.

**STEP 5:** Then type the result value result=gcd(n.m)

**STEP 6:** compile the program by pressing keys ALT+F9

**STEP 7:** Run the program by pressing keys CTRL+F9

**STEP 8:** Execute the program.

**STEP 9:** The output is verified.

## GCD USING RECURSION

```
#include<iostream.h>
#include<conio.h>
int gcd(int n,int m)
{
if((n>=m)&&((n%m)==0))
return(m);
else
return (gcd(m,(n%m)));
}
void main()
{
int n,m,result;
clrscr();
cout<<"\n\n GREATEST COMMON DIVISOR(GCD) USING RECURSION";
cout<<"\n******** ****** ********** ****** **********";
cout<<"\n\n Input the first integer number:";
cin>>n;
cout<<"\n\n Input the second integer number:";
cin>>m;
result=gcd(n,m);
cout<<"\n \n GCD of"<<n<<"and "<<m<<"is"<<result;
getch();
}
```

## OUTPUT:

GREATEST COMMON DIVISOR(GCD) USING RECURSION
********** ********* ********** ****** **********";

Input the first integer number : 64

Input the second integer number : 32

GCD OF 64 and 32 is 32

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:14** **FUNCTION OVERLOADING**

## AIM:

To write a C++ program to find RADIUS OF CIRCLE, SIDES OF RECTANGLE, SIDES OF TRIANGLE

## ALGORITHM:

**STEP 1:** Start the program.

**STEP 2:** Type CMD and RUN the program.

STEP 3: Type the decleration of #define pi 3.14

STEP 4: Type the input to the program int a,b,r

STEP 5: Declare the statement to the program obj.area(0.5,a,b)

**STEP 6:** Compile the program by pressing keys ALT+F9

**STEP 7:** Run the program by pressing keys CTRL+F9

**STEP 8:** Execute the program.

**STEP 9:** The output is verified.

## FUNCTION OVERLOADING

```
#include<iostream.h>
#include<stdlib.h>
#include<conio.h>
#define pi 3.14
class fn
{
public:
void area(int);
void area(int,int);
void area(float,int,int);
};
void fn::area(int a)
{
cout<<"Area of circle:"<<pi*a*a;
}
void fn::area(int a,int b)
{
cout<<"Area of rectangle:"<<a*b;
}
void fn::area(float t,int a,int b)
{
cout<<"Area of triangle:"<<t*a*b;
}
void main()
{
int ch;
int a,b,r;
clrscr();
fn obj;
cout<<"\n\t\t Function Overloading";
cout<<"\n\n Enter Radius of the circle\n";
cin>>r;
obj.area(r);
cout<<"\n\n Enter sides of the Rectangle\n";
cin>>a>>b;
obj.area(a,b);
cout<<"\n\n Entern sides of the triangle \n";
cin>>a>>b;
obj.area(0.5,a,b);
getch();
}
```

## OUTPUT:

Function Overloading

Enter Radius of the circle : 2
Area of circle : 12.56

Enter sides of the Rectangle : 2 3
Area of Rectangle : 6

Enter sides of the triangle : 5 2

Area of triangle :5

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:15 DYNAMIC MEMORY ALLOCATION USING CALLOC()**

## AIM:

To type the program to find the dynamic memory allocation

## ALGORITHM

**STEP 1:** Start the program.

**STEP 2:** Type CMD and RUN the program.

STEP 3:Type the decleration of header file int n,i,*ptr,sum=0;

STEP 4:Write the decleraing print f and scan f ststements

STEP 5:Declare the condition statement

For(i=0,i<n;i++)

**STEP 6:** compile the program by pressing keys ALT+F9

**STEP 7:** Run the program by pressing keys CTRL+F9

**STEP 8:** Execute the program.

**STEP 9:** The output is verified.

## DYNAMIC MEMORY ALLOCATION USING CALLOC()

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
clrscr();
int n,i,*ptr,sum=0;
printf("Enter number of element:");
scanf("%d",&n);
ptr=(int*)calloc(n,sizeof(int));
printf("Enter element of array \n");
for(i=0;i<n;++i)
{
scanf("%d",ptr+i);
sum+=*(ptr+i);
}
printf("Sum of entered element is %d",sum);
free(ptr);
getch();
}
```

## OUTPUT:

```
Enter number of element  : 4

Enter element of array:
2
3
4
5

Sum of entered element is : 14
```

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:16** **FILE COPY**

## AIM:

To write a C++ program to file copy from one file to another.

## ALGORITHM:

**STEP 1:** Start the program.

**STEP** 2**:** Type the CMD and RUN the program.

**STEP 3:** Declare the header file main function

Ifstream fs;

Of stream ft;

**STEP 4:**Write the while statement of the

While ( fs,eof ()==0)

**STEP** 5**:** compile the program by pressing keys ALT+F9

**STEP 6:** Run the program by pressing keys CTRL+F9 **STEP 8:** Execute the program.

**STEP 7:** The output is verified.

## FILE COPY

```
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
#include<stdio.h>
#include<stdlib.h>
void main()
{
clrscr();
ifstream fs;
ofstream ft;
char ch,fname1[20],fname2[20];
cout<<"\n FILE COPY FROM ONE FILE TO ANOTHER";
cout<<"\n **** **** **** *** **** ** *******";
cout<<"\n\n Enter source file name with extension:";
gets(fname1);
fs.open(fname1);
if(!fs)
{
cout<<"Error in opening source file...!!";
getch();
exit(1);
}
cout<<"\n\n Enter target file name with extention:";
gets(fname2);
ft.open(fname2);
if(!ft)
{
cout<<"Error in opening target file...!!";
fs.close();
getch();
exit(2);
}
while(fs.eof()==0)
{
fs>>ch;
ft<<ch;
}
cout<<"\n\n file copied successfully..!!";
fs.close();
ft.close();
getch();
}
```

## OUTPUT:

```
FILE COPY FROM ONE FILE TO ANOTHER
**** ****  ****** ***  ***** **  *********

Enter source file name with extension: hai.txt

Enter target file name with extention: hello.txt


File copied successfully……
```

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:17** **MERGE OF ARRAY**

## AIM:

To write a C++ program to merge an array.

## ALGORITHM:

**STEP 1:** Start the program.

**STEP 2:**Then type the CMD and RUN the program.

**STEP 3:** Give the input value int a[5],b[5],c[10],i.

**STEP 4:** Declare the condition statement

for (i=0;i<5:i++)

**STEP** 5**:** compile the program by pressing keys ALT+F9

**STEP 6:** Run the program by pressing keys CTRL+F9

**STEP 7:** Execute the program.

**STEP 8:** The output is verified

## MERGE OF ARRAY

```
#include<iostream.h>
#include<conio.h>
void main()
{
int a[5],b[5],c[10],i;
clrscr();
cout<<"\n Enter Element in 1st array: ";
for(i=0;i<5;i++)
{
cin>>a[i];
}
cout<<"Enter Element in 2nd array:";
for(i=0;i<5;i++)
{
cin>>b[i];
}
cout<<"\n Element of Array after Merge:\n";
for(i=0;i<5;i++)
{
c[i]=a[i];
c[i+5]=b[i];
}
for(i=0;i<10;i++)
{
cout<<c[i];
}
getch();
}
```

## OUTPUT:

```
Enter Element in 1st array      :
1
2
3
4
5

Enter Element in 2nd array      :
6
7
8
9
0

Element of Array after Merge  : 1234567890
```

## Result:

The above program has been executed successfully and the output is verified.

**EX.NO:18** **STRING MANIPULATIONS**

## AIM

To write a program to perform operations on strings.

## ALGORITHM

**STEP 1 :** Start the program.

**STEP 2 :** Declare the necessary variables.

**STEP 3 :** Assign some string to the two string variable string1 and 2.

**STEP 4 :** Find the length of string 1 using strlen function and print the length.

**STEP 5 :** Compare the string s1 and s2 using strcmp function and display where the string are equal or not.

**STEP 6 :** Join the two strings s1,s2 using strcat function and display the output.

**STEP 7 :** Copy the string s1 to s3 and display s3.

**STEP 8 :** Convert the string s1 to lower case using strlwr.

**STEP 9 :** Convert the string s1 to upper case using strupr.

**STEP 10 :** Stop the program.

## STRING MANIPULATION

```
#include<iostream.h>
#include<conio.h>
#include<string.h>
void main()
{
clrscr();
char s1[80], s2[80];
strcpy(s1,"c++");
strcpy(s2,"is power programming");
cout<<"length:"<<strlen(s1);
cout<< ' ' << strlen(s2) << '\n';
if(!strcmp(s1,s2))
cout<< "The string are equal\n";
else
cout << "not equal\n";
strcat(s1,s2);
cout<<s1<<'\n';
strcpy(s2,s1);
cout<<s1<<" and "<<s2<< "\n";
if(!strcmp(s1,s2))
cout<<"s1 and s2 are now the same.\n";
getch();
}
```

## OUTPUT:

Length: 3 20

not equal

C++ is power programming

C++ is power programming and C++ is power programming

s1 and s2 are now the same.

## Result:

The above program has been executed successfully and the output is verified.