Program:1

Date:

ROOTS OF QUADRATIC EQUATIONS

AIM

Write a program to find roots of quadratic equations

PROGRAM

```
#include<stdio.h>
#include<math.h>
void main()
{int a,b,c,d;
float r1,r2;
printf("\nenter the values\t ");
scanf("%d%d%d",&a,&b,&c);
if(a==0)
{
printf("\nvalue of a should not be zero\t");}
else
{d=b*b-4*a*c;
if(d>0)
{r1=(-b+sqrt(d))/(2*a);
r2=(-b-sqrt(d))/(2*a);
printf("\nroots are real and unequal");
```

```
printf("\t root1=%f\troot2=%f",r1,r2);
}
else if(d==0)
{r1=-b/(2*a);
printf("\nroots are real and equal");
printf("\t root=%f",r1);
}
else
printf("roots are complex and imagenary");
}
}
```

RESULT

The program to find the roots of a quadratic equation is done and output obtained successfully.

OUTPUT


enter the values 6 9 1
roots are real and unequal root1=-0.120847 root2=-1.379153

Program: 2

Date:

FIBONACCI SERIES USING RECURSION

AIM

Write a program to print Fibonacci series of a given limit using recursion

PROGRAM

```
#include<stdio.h>
int f(int);
int main()
{int n, m=0, i;
printf("enter the limit:");
scanf("%d",&n);
printf("Fibonacci series are:");
for(i=0;i<=n;i++)
{ Printf("%d",fib(m));
m++; }
Return 0; } int fib(int n)
{ if (n= =0||n= =1)
{ return n;
} else { return (fib(n -1) +( n -2)) }
}
```

RESULT

Obtained the output of the program to find the Fibonacci series of the given limit using recursion

OUTPUT


enter the limit:5
Fibonacci series are:011247
...Program finished with exit code 0
Press ENTER to exit console.

Program: 3

Date:

SUM OF DIGITS

AIM

write a program to find sum of digits of a number using while loop

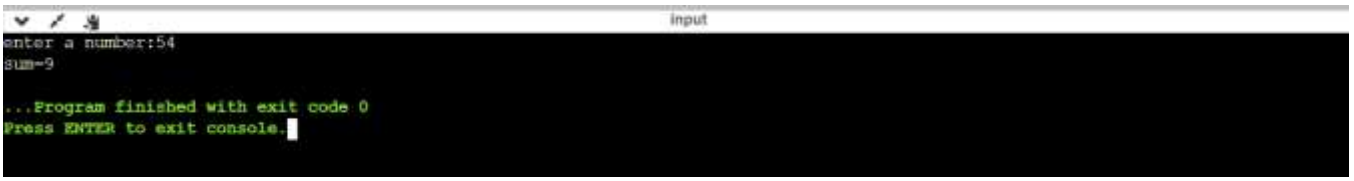
PROGRAM:

```
#include<stdio.h>
void main()
{
 int num, r, s;
 printf(“enter a number:”);
 scanf(“%d”,&num);
while(num>10)
{
S=0;While(num>0)
{ r=num%10;
 s=s+r;
num=num/10;
}num=s;
}
Printf(“sum=%d”,s);}
```

RESULT

Obtained the program to find sum of a digit of a number using while loop

OUTPUT


input
enter a number:54
sum=9
...Program finished with exit code 0
Press ENTER to exit console.

Program: 4

Date: 9/10/19

ARMSTRONG OR NOT

AIM

write a program to check whether the given number is an Armstrong or not

PROGRAM:

```
#include<stdio.h>
Void main()
{
int num, r, sum, temp;
sum = 0;
printf(“enter the number:”);
scanf(“%d”,&num);
temp = num;
while(num>0)
{
r = num%10;
sum = sum+(r*r*r);
num = num/10;
}
If(temp==sum)
{
Printf(“the number is  armstrong”);
```

}

Else

{

Printf(“the number is not armstrong”);

}

}

RESULT

Obtained the program to find the given number is an Armstrong or not.

OUTPUT:


input
enter the number:153
the number is armstrong
...Program finished with exit code 0
Press ENTER to exit console.


input
enter the number:152
the number is not armstrong
...Program finished with exit code 0
Press ENTER to exit console.

Program: 5

Date:

PRIME OR NOT

AIM

write a program to check whether the given number is prime or not

PROGRAM:

```
#include<stdio.h>
void main ( )
{
int num, i, flag = 0;
printf(“enter the number:”);
scanf(“%d”,&num);
for (i=2 ; i < num-1 ; i++)
 {
if (num % i = =0)
{
 flag =1;
Break;
}
}
if(flag = =0)
{
```

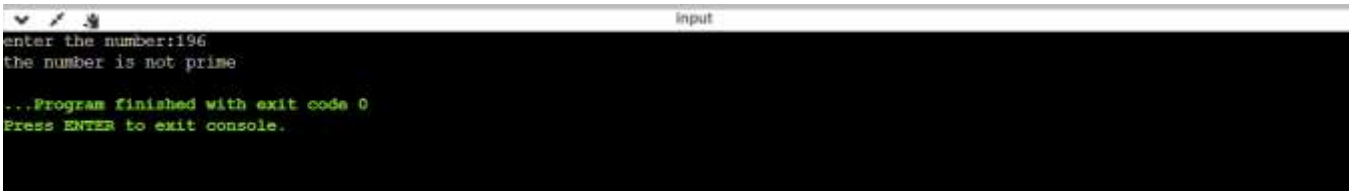
```
printf (“number is prime”);
}
else
{
printf (“the number is not prime”);
}
}
```

RESULT

Obtained the program to find the given number is prime or not

OUTPUT


input
enter the number:197
number is prime
...Program finished with exit code 0
Press ENTER to exit console.


input
enter the number:196
the number is not prime
...Program finished with exit code 0
Press ENTER to exit console.

Program: 6

Date:

SUM AND AVERAGE OF N NUMBERS

AIM

write a program to find sum and average of n natural numbers without using formula.

PROGRAM:

```
#include<stdio.h>
void main ( )
{
int I,num,sum=0,average;
printf("enter the number:");
scanf("%d",&num);
for(i=1 ; i<num ; i++)
{
Sum = sum + I;
} printf("sum = %d",sum);
Average = sum / num;
printf("average = %d", average);
}
```

RESULT

Obtained the program to find sum and average of n natural numbers without using formula

OUTPUT


input
enter the number:10
sum=45
average = 4
...Program finished with exit code 0
Press ENTER to exit console.

Program: 7

Date:

AREA AND PERIMETER OF A CIRCLE

Aim

write a program to find area and perimeter of a circle of radius 6

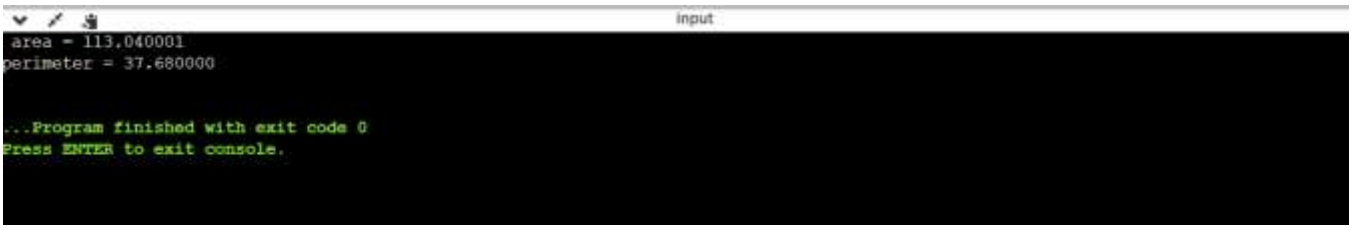
PROGRAM

```
#include<stdio.h>

#define pi 3.14

void main ( )

{

int rad = 6;

 float per, area;

area = pi*(rad*rad);

printf(“ area = %f \n”,area);

per = 2*(pi*rad);

printf(“perimeter = %f \n”,per);

}
```

RESULT

Obtained the program to find area and perimeter of a circle of radius 6

OUTPUT


input
area = 113.040001
perimeter = 37.680000
...Program finished with exit code 0
Press ENTER to exit console.

Program: 8

Date:

SIZE OF VARIABLES

AIM

write a program to print size of variables

PROGRAM

```
#include<stdio.h>
void main ( )
{ int a =1;
char b = ‘G’;
 double c = 3.14;
 printf (“hello world \n”);
 printf (“intiger is %d \n”,a);
 printf ( “character is  %c \n”,b);
 printf (“double is %f \n”,c);
 printf (“size of integer is %u \n”, size of( a));
 printf (“size of character is %u \n”, size of (b));
 printf (“size of double is %u \n”, size of (c));return 0;
}
```

RESULT

Obtained the program to print the size of variables

OUTPUT


hello world
intiger is 1
character is G
double is 3.140000
size of integer is 4
size of character is 1
size of double is 8
...Program finished with exit code 0
Press ENTER to exit console.

Program: 9

Date:

SUM OF ARRAYS

AIM

write a program to add 10 array elements

PROGRAM

```
#include<stdio.h>
void main()
{
int a[10],n=10,sum=0,i;
 printf("\nEnter the 10 array elements:");
 for(i=0;i<n;i++)
 {
  scanf("%d",&a[i]);
  sum=sum+a[i];
  }
  printf("sum=%d" ,sum);
  }
```

RESULT

Obtained the program to add 10 array elements

OUTPUT

Program: 10

Date:

COUNTING ODD AND EVEN NUMBERS

AIM

write a program to count odd and even numbers in an array

PROGRAM

```
#  include <stdio.h>
 void main ( ){int a[100] ,i , n , odd =0 ,even =0;
 printf ( "\nenter the size of an array:");
 scanf ("%d",& n);
 printf ("\nenter the elements of an array :");
 for (i =0; i <n; i++)
 {scanf ("%d",&a[i]);
 if (( a[i] % 2) ==0) {
 even ++ ; }
 else
 { odd ++ ;
}} printf ("\neven number : %d" , even) ;
 printf ("\nodd number : %d" , odd) ;
 }
```

RESULT

Obtained the program to count odd and even numbers in an array

OUTPUT


enter the size of an array:5
enter the elements of an array :1 2 3 4 5
even number : 2
odd number : 3

Program: 11

Date:

COPY ALL ELEMENTS OF ONE ARRAY TO ANOTHER

AIM

write a program to copy elements of one array to another

PROGRAM

```
#include <stdio.h>

void main ( )

{

int n , i , a [10] , b [10] ;

printf ( “enter the size of array:”) ;

scanf (“%d”,&n) ;

printf (“enter the elements of an array :”) ; for (i = 0; i <
n; i++)

{

scanf (“%d”, & a[i] ) ;

}

printf (“the first array is :”) ;

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

{

 printf (“%d” , a[i] ) ;

}

printf (“the second array is :”) ;
```

```
For (i = 0; i < n: i++)
{
b[i] = a[i] ;
 Printf (“%d, b[i] ) ;
}
```

RESULT

Obtained the program to copy the elements of one array to another

OUTPUT


input
enter the size of array:3
enter the elements of an array :1 4 7
the first array is :147the second array is :147
...Program finished with exit code 0
Press ENTER to exit console.

Program: 12

Date:

MAXIMUM AND MINIMUM NUMBER IN AN ARRAY

AIM

write a program to find maximum and minimum number of elements in an array

PROGRAM

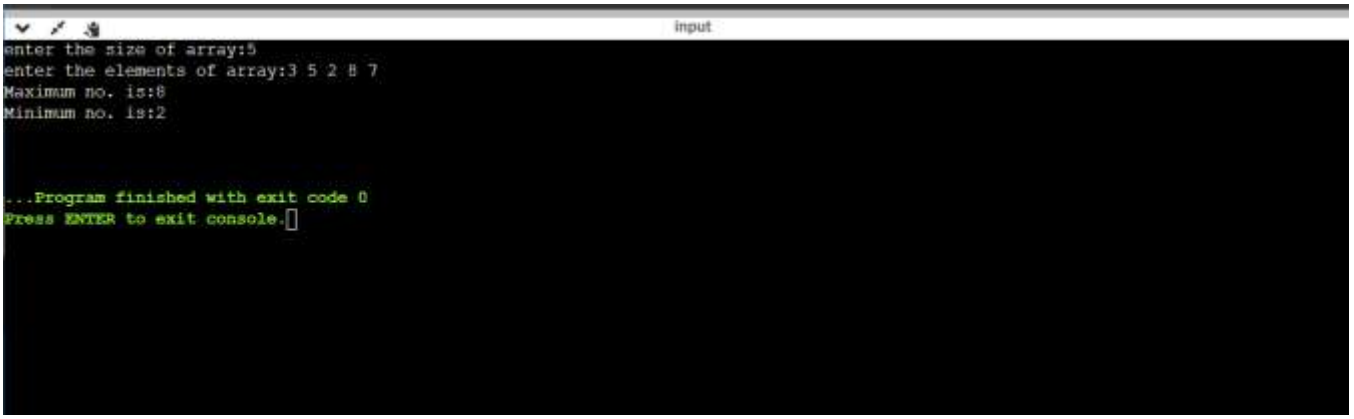
```
#include<stdio.h>
void main( )
{
int arr[100],i,n,max,min;
printf("enter the size of array:");
scanf("%d",&n);
printf("enter the elements of array:");
for(i=0;i<n;i++)

{
scanf("%d",&arr[i]);
}
max=min=arr[0];
for(i=0;i<n;i++)
{
if(arr[i]>max)
{
```

```
max=arr[i];
}
if(arr[i]<min)
{
min=arr[i];

}
}
 printf("Maximum no. is:%d\n",max);
printf("Minimum no. is:%d",min);
 printf("\n\n");
}
```

RESULT

Obtained the program to find the maximum and minimum number of elements in an array

OUTPUT


input
enter the size of array:5
enter the elements of array:3 5 2 8 7
Maximum no. is:8
Minimum no. is:2
...Program finished with exit code 0
Press ENTER to exit console.

Program: 13

Date:

MATRIX ADDITION

AIM

write a program to find the sum of 2 matrices, display input and output matrix

PROGRAM:

```
#include<stdio.h>
Void main ( )
{
int a[100][100],b[100][100],c[100][100],i,j,m,n;
 printf("enter the size of matrix:");
scanf("%d%d",&m,&n);
printf("enter the elements of first matrix:\n");
for(i=0;i<m;i++)
{
for(j=0;j<n;j++)
{
scanf("%d",&a[i][j]);
}
}
printf("enter the elements of second matrix:\n");
for(i=0;i<m;i++)
```

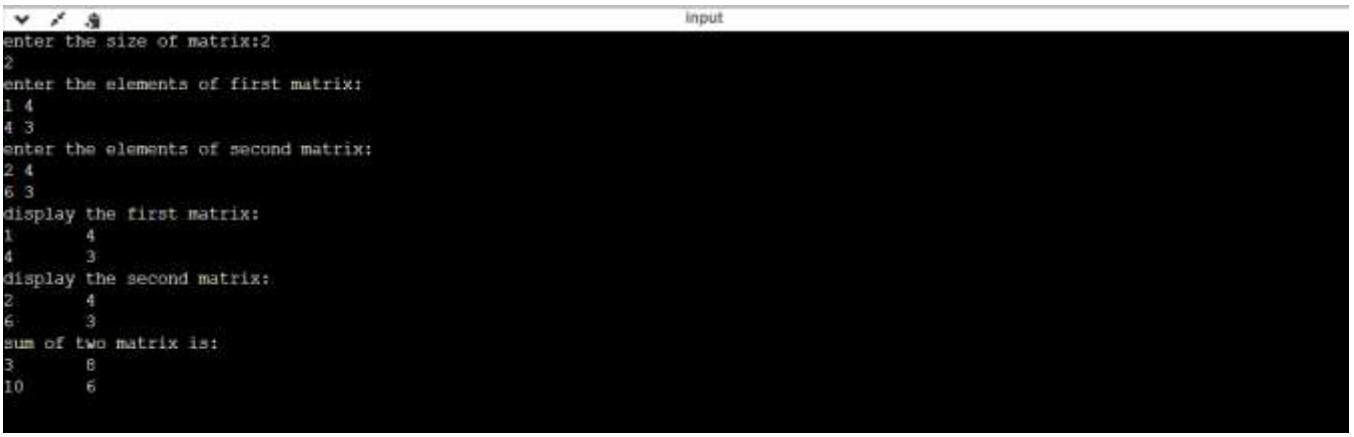
```
{
 for(j=0;j<n;j++)
{
scanf("%d",&b[i][j]);
 }
 }

 printf("display the first matrix:\n");
for(i=0;i<m;i++)
 {
for(j=0;j<n;j++)
 {
printf("%d\t",a[i][j]);
}
 printf("\n");
 }
 printf("display the second matrix:\n");
 for(i=0;i<m;i++)
 {
 for(j=0;j<n;j++)

{
 printf("%d\t",b[i][j]);
 }
 printf("\n");
 }
```

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

RESULT

Obtained the program to find the sum of 2 matrices and displayed the input and output matrix

OUTPUT


input
enter the size of matrix:2
2
enter the elements of first matrix:
1 4
4 3
enter the elements of second matrix:
2 4
6 3
display the first matrix:
1 4
4 3
display the second matrix:
2 4
6 3
sum of two matrix is:
3 8
10 6

Program: 14

Date:

MATRIX MULTIPLICATION

AIM

Write a program to enter 2 matrices of m*n order. Find the product of 2 matrices, display input and output matrix and also check for matrix multiplication

PROGRAM

```
#include<stdio.h>

void main ( )

{

int a[100][100],b[100][100],c[100][100],i,j,m,n,k,p,q;

printf("enter the size of first matrix:\n");

scanf("%d%d",&m,&n);

printf("enter the size of second matrix:\n");

scanf("%d%d",&p,&q); if(n!=p)

{

printf("Multiplication is not possible\n");

}

else

{

printf("enter the elements of first matrix:\n");

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

{
```

```
for(j=0;j<n;j++)


{
scanf("%d",&a[i][j]);
}
}
printf("enter the elements of second matrix:\n");
for(i=0;i<p;i++)
{
for(j=0;j<q;j++)
{
scanf("%d",&b[i][j]);
}
}
printf("display the first matrix:\n");
for(i=0;i<m;i++)
{
for(j=0;j<n;j++)
{
printf("%d\t",a[i][j]);
}
printf("\n");
}
printf("display the second matrix:\n");
for(i=0;i<p;i++)
{
```

```
for(j=0;j<q;j++)
{
printf("%d\t",b[i][j]);
}
printf("\n");
}
printf("product of matrices is:\n");
for(i=0;i<m;i++)
{
for(j=0;j<q;j++)
{
for(k=0;k<p;k++)
{
c[i][j]=c[i][j]+a[i][k]*b[k][j];
}
}}for(i=0;i<m;i++)
{
for(j=0;j<q;j++){
printf("%d\t",c[i][j]);
}
printf("\n");
}}}
```

RESULT:

Obtained the program to find the product of 2 matrices and displayed input and output matrix

OUTPUT


input
enter the size of first matrix:
2
2
enter the size of second matrix:
2 2
enter the elements of first matrix:
2 3
4 2
enter the elements of second matrix:
2 1
1 2
display the first matrix:
2 3
4 2
display the second matrix:
2 1
1 2
product of matrices is:
7 8
10 8
...Program finished with exit code 0
Press ENTER to exit console.

Program: 15

Date:

TRANSPOSE AND SYMMETRIC

AIM

write a program to find transpose of a matrix. Also check whether it is symmetric or not

PROGRAM:

```
#include<stdio.h>
void main( )
{
int a[12][12],transpose[12][12];
int i,j,m,n,flag=1;
printf("Enter the number of rows and columns of matrix\n"); scanf("%d%d",&m,&n);

printf("Enter the elements of the matrix\n");
for(i=0;i<m;i++)
{
for(j=0;j<n;j++)
{
scanf("%d",&a[i][j]);
}
}
printf("The matrix\n");
```

```
for(i=0;i<m;i++)
{
for(j=0;j<n;j++)
{
printf("%d\t",a[i][j]);
 }
printf("\n");
 }
 //To find transpose
 for(i=0;i<m;i++)
 {
 for(j=0;j<n;j++)
 {
 transpose[j][i]=a[i][j];
 }
 }
 printf("The transpose matrix\n");
 for(i=0;i<n;i++)
{
 for(j=0;j<m;j++)
 {
printf("%d\t",transpose[i][j]);
 }
 printf("\n");
 }
 if(m==n)
```

```
 {
 for(i=0;i<m;i++)
{
for(j=0;j<n;j++)
 {
 if(a[i][j]!=transpose[i][j])
 {
 flag=0;
 break;
 }
 }
 if(flag==0)
 {
 printf("\nThe matrix is not symmetric");
 break;
}
 } if(flag==1)
{printf("\nThe matrix is symmetric");
 }
 }
 else
 { printf("\nThe matrix is not symmetric"); }
}
```

RESULT:

Obtained the program to find the transpose of a matrix and also checked whether it is symmetric or not

OUTPUT


input
Enter the number of rows and columns of matrix
2 2
Enter the elements of the matrix
1 4
3 5
The matrix
1 4
3 5
The transpose matrix
1 3
4 5
The matrix is not symmetric
...Program finished with exit code 0
Press ENTER to exit console.

Program: 16

Date:

SWAPING VALUES

AIM

Write a program to swap two values

PROGRAM

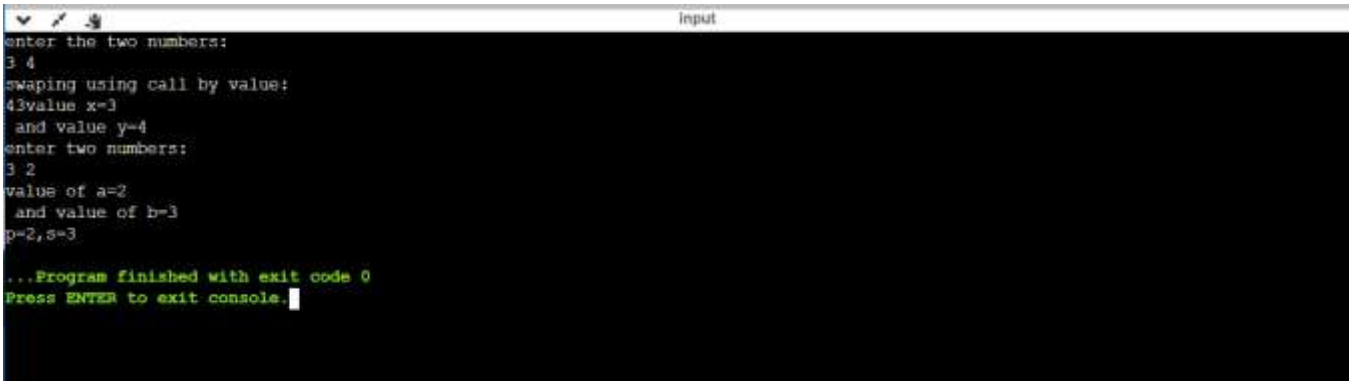
```
#include<stdio.h>
void change(int,int);
void replace(int*,int*);
void main()
{
int x,y,p,s;
printf(“enter the two numbers:”);
scanf(“%d%d,&x,&y”);
change(x,y);
printf(“value x=%d and value y=%d”,x,y);
printf(“enter two numbers:”);
scanf(“%d%d”,&p,&s);
replace(&p,&s);
printf(“p=%d,s=%d”,p,s);
}
void change(int a,int b)
```

```
{


int k;
k=a;
a=b;
b=k;
printf("swaping using call by value:");
printf("%d%d",a,b);
}
void replace(int *a,int *b)
{
int k;
k=*a;
*a=*b;
*b=k;
Printf("value of a=%d and value of b=%d",*a,*b);
}
```

RESULT:

Obtained the program to swap the two values

OUTPUT


input
enter the two numbers:
3 4
swaping using call by value:
43value x=3
and value y=4
enter two numbers:
3 2
value of a=2
and value of b=3
p=2,s=3
...Program finished with exit code 0
Press ENTER to exit console.

Program:17

Date:

INSERT AN ELEMENT INTO THE ARRAY

Aim

Write a Program to insert an element into an array.

Program

```
#include <stdio.h>


void main()
{
int arr[100];
int i, x, a,pos, n ;
printf("enter the size of array:");
scanf("%d",&n);
printf("enter the elements in array:");
// initial array of size 10
for (i = 0; i < n; i++)
scanf("%d",&arr[i]);


// element to be inserted
printf("enter the element to be inserted:");
scanf("%d",&x);
printf("enter the position in wich element to be inserted:");
```

```
scanf("%d",&pos);
a=n;
a++;

// shift elements forward
for (i = a-1; i >= pos; i--)
arr[i] = arr[i - 1];

// insert x at pos
arr[pos - 1] = x;

for(i = 0; i < n+1; i++)
printf("%d ", arr[i]);
printf("\n");

getch();
}
```

RESULT

The program to finsert an element into an array is done and output is obtained.

OUTPUT

```
enter the size of array:5
enter the elements in array:2 8 9 2 4
enter the element to be inserted:3
enter the position in wich element to be inserted:3
2 8 3 9 2 4
```

Program:18

Date:

DELETE AN ELEMENT FROM AN ARRAY

AIM

Write a program to delete an element from the array

PROGRAM

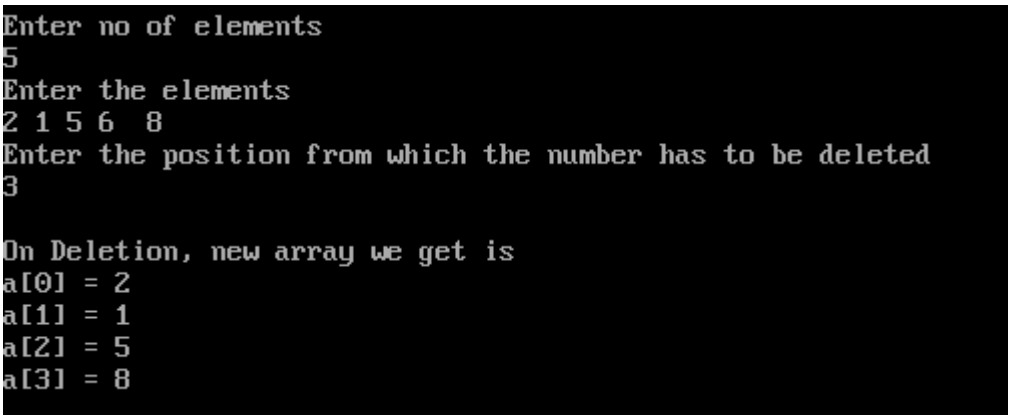
```
#include<stdio.h>

void main()

{

int a[100],i,n,pos;


printf("\nEnter no of elements\n");

scanf("%d",&n);


printf("Enter the elements\n");

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

{

scanf("%d",&a[i]);

}

printf("Enter the position from which the number has to be deleted\n");

scanf("%d",&pos);

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

{
```

```
a[i]=a[i+1];
}
n=n-1;
printf("\nOn Deletion, new array we get is\n");
for(i=0;i<n;i++)
{
printf("a[%d] = %d\n",i,a[i]);
}
}
```

RESULT

The program to delete an element in ana array is done and output obtained successfully.

OUTPUT


Enter no of elements
5
Enter the elements
2 1 5 6 8
Enter the position from which the number has to be deleted
3
On Deletion, new array we get is
a[0] = 2
a[1] = 1
a[2] = 5
a[3] = 8

Program:19

Date:

MERGE AND REVERSE OF AN ARRAY

AIM

Write a program to merge and reverse of an array.

PROGRAM

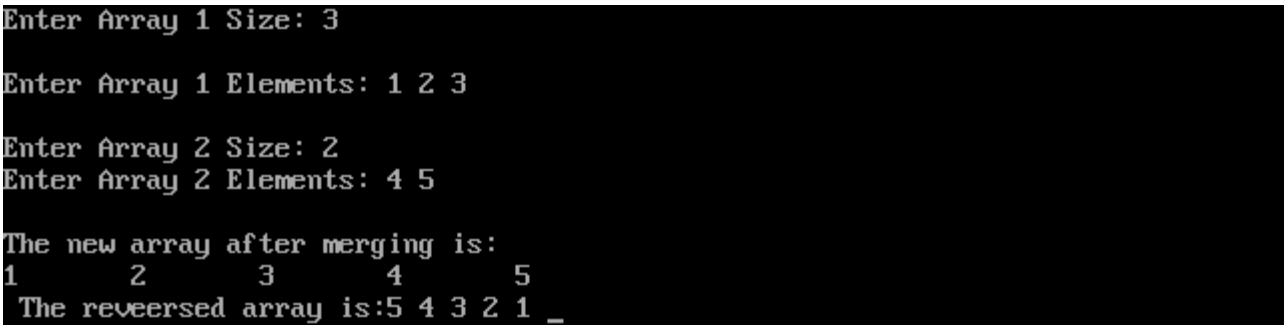
```
#include<stdio.h>
#include<conio.h>
int main()
{
int rev[20],arr1[50],j=0, arr2[50], size1, size2, i, k, merge[100];
printf("\nEnter Array 1 Size: ");
scanf("%d", &size1);
printf("\nEnter Array 1 Elements: ");
for(i=0; i<size1; i++)
{
scanf("%d", &arr1[i]);
merge[i] = arr1[i];
}
k = i;
printf("\nEnter Array 2 Size: ");
scanf("%d", &size2);
printf("Enter Array 2 Elements: ");
```

```
for(i=0; i<size2; i++)
{
scanf("%d", &arr2[i]);
merge[k] = arr2[i];
k++;
}
printf("\nThe new array after merging is:\n");
for(i=0;i<k;i++)
printf("%d\t",merge[i]);
printf("\n The reveersed array is:");
for(i=k-1; i>=0; i--)
{
rev[j]=merge[i];

printf("%d ", rev[j]);
j++;
}
getch();
return 0;
}
```

RESULT

The program to merge array and reverse the merged array is done and output is obtained.

OUTPUT


Enter Array 1 Size: 3
Enter Array 1 Elements: 1 2 3
Enter Array 2 Size: 2
Enter Array 2 Elements: 4 5
The new array after merging is:
1 2 3 4 5
The reveersed array is:5 4 3 2 1

Program:20

Date:

SORT AN ARRAY

AIM

Write a program to sort an array.

PROGRAM

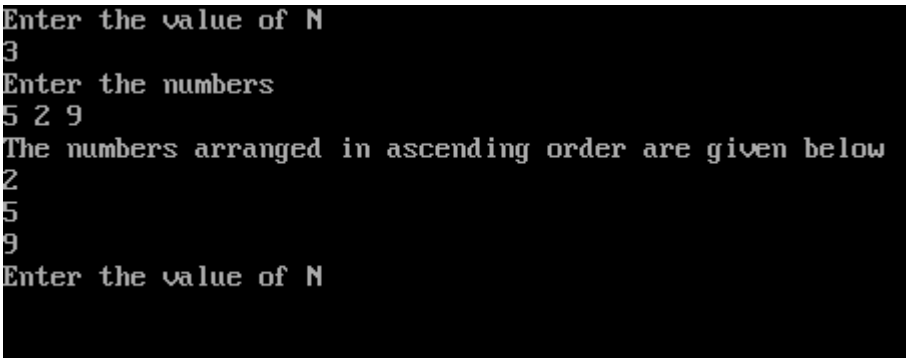
```
#include <stdio.h>

void main()

{


int i, j, a, n, number[30];

printf("Enter the value of N \n");

scanf("%d", &n);


printf("Enter the numbers \n");

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

scanf("%d", &number[i]);


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

{


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

```
{


if (number[i] > number[j])

{


a =  number[i];

number[i] = number[j];

number[j] = a;


}    }

}

printf("The numbers arranged in ascending order are given below \n");

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

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

}
```

RESULT

The program to sort an array is done and output is obtained.

OUTPUT


Enter the value of N
3
Enter the numbers
5 2 9
The numbers arranged in ascending order are given below
2
5
9
Enter the value of N

Program:21

Date:

SEARCH AN ELEMENT FROM AN ARRAY

AIM

Write a program to search an element from the array.

PROGRAM

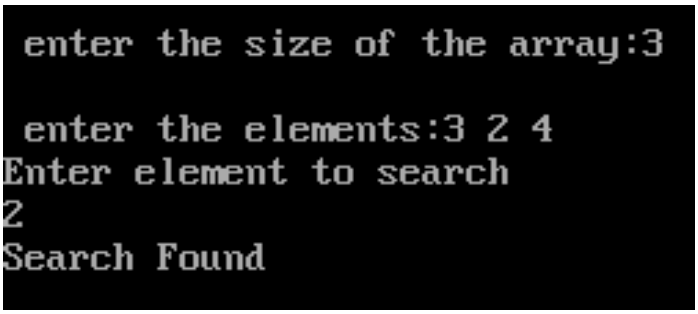
```
#include<stdio.h>

int main()

{

int arr[30];

int key,i,flag = 0,n;

printf("\n enter the size of the array:");

scanf("%d",&n);

printf("\n enter the elements:");

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

scanf("%d",&arr[i]);

printf("Enter element to search\n");

scanf("%d",&key);



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

{
```

```
if(arr[i] == key)
{
flag = 1;
break;
}
}

if(flag == 1)
printf("Search Found\n");
else
printf("Search Not Found\n");

return 0;
}
```

RESULT

The program to search an element is done and output is obtained.

OUTPUT


enter the size of the array:3
enter the elements:3 2 4
Enter element to search
2
Search Found

Program: 22

Date:

FACTORIAL OF A NUMBER

AIM

Write a program to find the factorial of a number using function

PROGRAM

```
#include<stdio.h>
int fact(int);
void main()
{
int num;printf(“enter the number:”);
scanf(“%d”,&num);
int F=fact(num);
printf(“factorial is %d”,F);
}int fact (int n)
{If((n==0)||(n-1))
{return 1;}
else
{return n(n*fact(n-1));}
}
```

RESULT

Obtained the program to find the factorial of a number using function

OUTPUT

Program: 23

Date:

G.C.D OF TWO NUMBERS

AIM

Write a program to print the G.C.D of two numbers using function

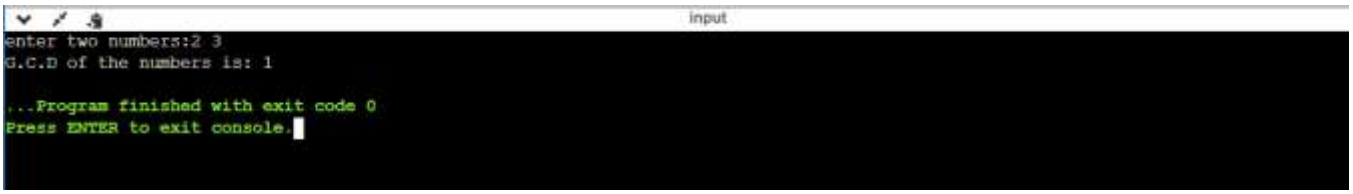
PROGRAM

```
#include<stdio.h>
int hcf(int n1, int n2);
int main()
{ int n1, n2;
printf("enter two numbers:");
scanf("%d%d",&n1, &n2);
printf("G.C.D of the numbers is: %d", hcf (n1,n2));
return 0; }
int hcf(int n1, int n2)
{ If(n2!=0)
{ return hcf(n2, n1%n2);
}else
{ return n1; }
}
```

RESULT

Obtained the output of the program to find the G.C.D of the given two numbers using function

OUTPUT


input
enter two numbers:2 3
G.C.D of the numbers is: 1
...Program finished with exit code 0
Press ENTER to exit console.

Program: 24

Date:

MONTHS AND DAYS IN A NUMBER

AIM

Write a program to find the number of months and days in a given number

PROGRAM

```
#include<stdio.h>
void main ( )
{
int n, month, days;
printf(“enter the number:”);
scanf(“%d”,&n);
month= n/30;
days=n%30;
printf(“month =%d\n”,month);
printf(“days =%d\n”,days);
}
```

RESULT

Obtain the program to find the number of months and days in a given number

OUTPUT


input
enter the number:35
month =1
days =5
...Program finished with exit code 0
Press ENTER to exit console.

Program:25

Date:

LENGTH OF STRING

AIM

write a program to find the length of string without using library function

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
char s1[30];
int i,c=0;
printf("Enter a string:");
scanf("%s",s1);

for(i=0; s1[i]!='\0'; i++)
{
c++;
}
printf("%d",c);
getch();
}
```

RESULT

The program is done successfully

OUTPUT

```
Enter a string:Hello world
11
```

Program:26

Date:

COPY THE STRING

AIM

write a program to copy the string without using library function

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{char s1[25],s2[25];
int i;printf("\nEnter the first string:\n");
scanf("%s",s1);
printf("\nEnter the second string:\n");
scanf("%s",s2);for(i=0; s1[i]!='\0'; i++)
{s2[i]=s1[i];}printf("\nafter copying string\n");
printf("\nThe first string=%s\n",s1);
printf("\nThe second string=%s\n",s2);
getch();
}
```

RESULT

The program done successfully.

OUTPUT


Enter the first string:
Flower
Enter the second string:
vase
after copying string
The first string=Flower
The second string=Flower

Program:27

Date:

CONCATENATE TWO STRINGS

AIM

write a program to concatenate string without using library function

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
char s1[30],s2[30];
int i,k=0;
printf("\nEnter the first string:");
scanf("%s",s1);
printf("\nEnter the second string:");
scanf("%s",s2);
for(i=0; s2[i]!='\0'; i++)
{
k++;
}
for(i=0; s1[i]!='\0'; i++)
{s2[k]=s1[i];
```

```
k++;
}
printf("\nAfter concatination:");
printf("%s",s2);
getch();
}
```

RESULT

The program done successfully

OUTPUT


Enter the first string:HELLO
Enter the second string:WORLD
After concatination:WORLDHELLO

Program:28

Date:

COMPARE STRING

AIM

write a program to compare the string without using library function.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
char s1[25],s2[25];
int i,f=0;
printf("\nenter the first string:");
scanf("%s",s1);
printf("\nenter the second string:");
scanf("%s",s2);
for(i=0;s2[i]!='\0';i++);
{if(s2[i]!=s1[i])
{f=1;}
}
if(f==1)
 printf("strings are not same");
```

```
else
 printf("strings are same");
 getch();
 }
```

RESULT

The program done successfully.

OUTPUT


enter the first string:hello
enter the second string:hello
strings are same_

Program:29

Date

REVERSE STRING

AIM

write a program to reverse the string without using library function

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
char a,s1[30],s2[30];
int i,n,k=0;
printf("\nEnter a string:");
scanf("%s",s1);
for(i=0; s1[i]!='\0'; i++)
{k++;
}n=k;
k=k-1;
for(i=0; i<=n; i++)
{
s2[i]=s1[k];
k--;
```

```
}s2[n]='\0';

printf("After reversing the string=%s",s2);

getch();

}
```

RESULT

The program done successfully.

OUTPUT

Program:30

Date:

CONVERTION OF LOWERCASE TO UPPERCASE

AIM

write a program to print the string in uppercase without using library function.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{char s[25],s2[25];
int i;printf("enter the string:");
scanf("%s",s);
for(i=0;s[i]!='\0';i++)
{if((s[i]>='a') && (s[i]<='z'))
{s2[i]=s[i]; }
else{ s2[i]=s[i];}
}printf("%s",s2);memset(s2,0,25);
getch();
  }
```

RESULT

The program done successfully.

OUTPUT

```
enter the string:helloWORLD

After converting to UppercaseHELLOWORLD
```

Program:31

Date:

CONVERTION OF UPPPERCASE TO LOWERCASE

AIM

write a program to print the string in lowercase without using library function

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{char s[25],s2[25];
int i;printf("enter the string:");
scanf("%s",s);
for(i=0;s[i]!='\0';i++)
{ if((s[i]>='A') && (s[i]<='Z'))
{s2[i]=s[i]+32;  }else
{   s2[i]=s[i];
}  } printf("%s",s2);
memset(s2,0,25);
getch();
}
```

RESULT

The program done successfully.

OUTPUT

```
enter the string:HelloWorLD

After changing to Lowercase:helloworld_
```

Program:32

Date:

FREQUANCY OF A CHARACTER IN A STRING

AIM

Write a program to calculate the frequency of character in a string.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{char s[25];
int i,count=0,j,n;
printf("\nenter the string:");
scanf("%s",s);
n=strlen(s);
for(i=0;i<n;i++)
{count=1;
if(s[i])
{ for(j=i+1;j<n;j++)
{   if(s[i]==s[j])
{
count++;
```

```
s[j]='\0';
}}  printf(" %c occurs= %d \n",s[i],count);
}}
 memset(s,0,25);
  getch();
  }
```

RESULT

The program done successfully.

OUTPUT


After converting to UppercaseHELLOWORLD
enter the string:MATHEMATICS
M occurs= 2
A occurs= 2
T occurs= 2
H occurs= 1
E occurs= 1
I occurs= 1
C occurs= 1
S occurs= 1

Program:33
Date:

REMOVE SPECIAL CHARACTERS FROM STRING

AIM

Write a program to remove all characters except alphabets.

PROGRAM

```
#include<stdio.h>

#include<conio.h>

void main()

{

char s[25],s2[25];

int i,l;

printf("enter the string:");

scanf("%[^\n]",s);

for(i=0;s[i]!='\0';i++)

{if((s[i]>='a'&&s[i]<='z')||(s[i]>='A'&&s[i]<='Z'))

{  l=strlen(s2);

s2[l]=s[i]; }

}  printf("%s",s2);

getch();

}
```

RESULT

Program done successfully.

OUTPUT


enter the string:hello1234@world
After removing characters except alphabets:helloworld_

Program:34

Date:

SORT A LIST OF NAMES

AIM

Write a program to sort array of names.

PROGRAM

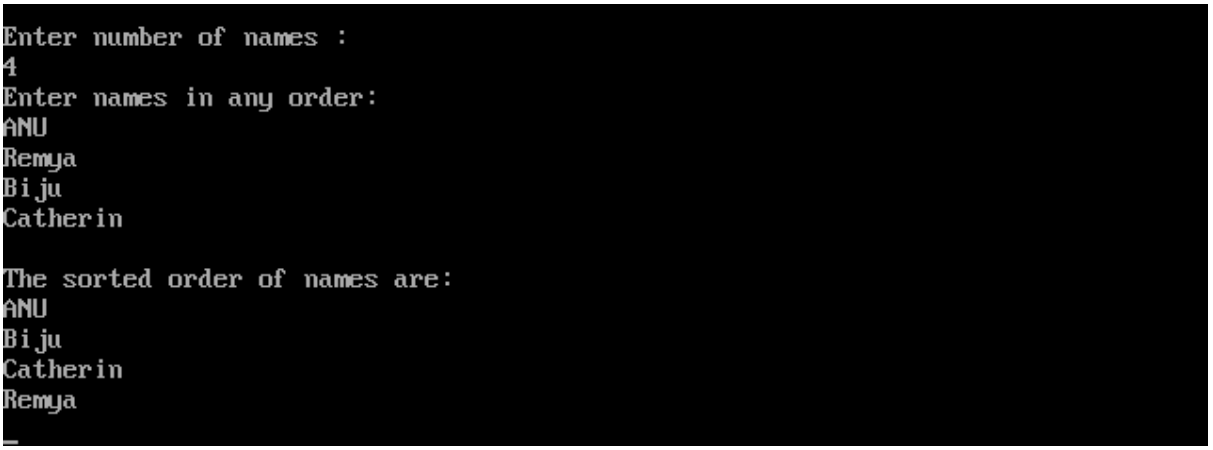
```
#include<stdio.h>
#include<string.h>
#include<conio.h>
void main(){ int i,j,n;
char str[100][100],s[100];
printf("Enter number of names :\n");
scanf("%d",&n);
printf("Enter names in any order:\n");
for(i=0;i<n;i++){
scanf("%s",str[i]); }
for(i=0;i<n;i++){
for(j=i+1;j<n;j++)
{
if(strcmp(str[i],str[j])>0){
strcpy(s,str[i]);
strcpy(str[i],str[j]);
```

```
strcpy(str[j],s);
}
}
}
 printf("\nThe sorted order of names are:\n");
for(i=0;i<n;i++){
printf("%s\n",str[i]);   } getch();
}
```

RESULT

The program done successfully.

OUTPUT


Enter number of names :
4
Enter names in any order:
ANU
Remya
Biju
Catherin
The sorted order of names are:
ANU
Biju
Catherin
Remya

Program:35

Date:

POINTER TO POINTER

AIM

Write a program to print the values using pointer to pointer concept.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
int *ptr1,**ptr2;
int n=25;
ptr1=&n;
ptr2=&ptr1;
printf("\nn=%d",n);
printf("\nvalue in ptr1=%d",*ptr1);
printf("\nvalue in ptr2=%d",**ptr2);
getch();
}
```

RESULT

The program done successfully.

OUTPUT

```
n=25
value in ptr1=25
value in ptr2=25
```

Program:36

Date:

INDEX VALUE AND ADDRESS USING POINTER

AIM

Write a program to display the index value and address using array to pointer.

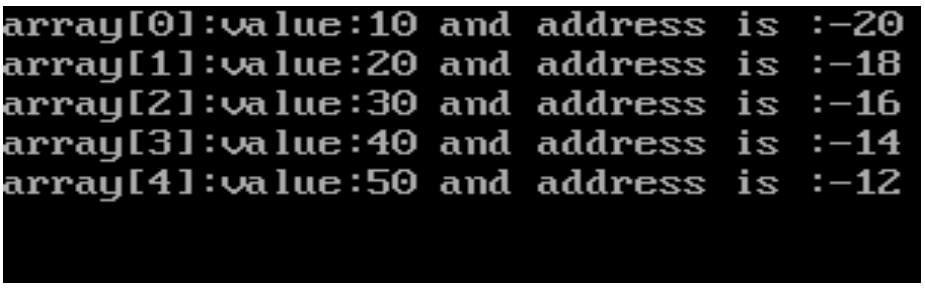
PROGRAM

```
#include<stdio.h>
#include<conio.h>
void main()
{
int *ptr,i;
int a[5]={10,20,30,40,50};
ptr=&a[0];

for(i=0;i<5;i++)
{printf("\narray[%d]:value:%d and address is :%d",i,*ptr,ptr);
ptr++;
}getch();
}
```

RESULT

The program done successfully

OUTPUT


array[0]:value:10 and address is :-20
array[1]:value:20 and address is :-18
array[2]:value:30 and address is :-16
array[3]:value:40 and address is :-14
array[4]:value:50 and address is :-12

Program:37

Date:

DYNAMIC MEMORY ALLOCATION

AIM

Write a program to implement dynamic memory allocation using Malloc,Calloc,Realloc and Free.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
int *ptr,sum=0,n,i;
printf("enter numbers of elements:");
scanf("%d",&n);
ptr=(int*)malloc(n*sizeof(int));
printf("\nmemory allocated using malloc");
printf("enter the elements of array:");
for(i=0;i<n;i++)
{
scanf("%d",ptr+i);
sum=sum+*(ptr+i);
}printf("sum=%d",sum);
```

```
free(ptr);
ptr=(int*)calloc(n,sizeof(int));
sum=0;
printf("\nmemory allocated using calloc");
printf("enter the elemntsof the second array:");
for(i=0;i<n;i++)
{scanf("%d",ptr+i);
sum=sum+*(ptr+i);
}
printf("sum=%d",sum);
printf("enter new size of second array:");
scanf("%d",&n);
sum=0;
ptr=realloc(ptr,n*sizeof(int));
printf("\nmemory allocated using realloc");
printf("\n enter the elements of second array:");
for(i=0;i<10;i++)
{scanf("%d",ptr+i);
sum=sum+*(ptr+i);
}
printf("sum=%d",sum);
free(ptr);
getch();
}
```

RESULT

The program done successfully.

OUTPUT

```
enter numbers of elements in first array:3

memory allocated using malloc
enter the elements of array:1 2 3
sum=6
enter numbers of elements in second array:4

memory allocated using calloc
enter the elemnts of the second array:1 2 3 4
sum=10
enter new size of second array:6

memory allocated using realloc
 enter the elements of second array:1 2 3 4 5 6

sum=21_
```

Program:38

Date:

ARRAY OF STRUCTURES

AIM

Write a program to create student details using array of structures.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
struct student
{int rollno;
char name[25];
int mark1,mark2,mark3;
char phno[10];}s[25];
void main(){
int sum=0,i=0;
printf("\nenter the rol no:");
scanf("%d",&s[i].rollno);
i++;printf("\nenter name:");
scanf("%s",s[i].name);
i++;printf("\nenter the marks of student:");
printf("\nmark1=");
scanf("%d",&s[i].mark1);
```

```
i++;
printf("\nmark2=");
scanf("%d",&s[i].mark2);
i++;
printf("\nmark3=");
scanf("%d",&s[i].mark3);
sum=s[2].mark1+s[3].mark2+s[4].mark3;
i++;
printf("\nenter phone no:");
scanf("%s",s[i].phno);
i=0;printf("\n Student details");
i++;
printf("\nRoll No:%d",s[i].rollno);
i++;
printf("\nName:%s",s[i].name);
i++;
printf("\nPhone no:%s",s[i].phno);
i++;
printf("\nMark1=%d",s[i].mark1);
i++;printf("\nMark2=%d",s[i].mark2);
i++;
printf("\nMark3 =%d",s[i].mark3);i++;printf("\nSum of mark=%d",sum);
 getch();
 }
```

RESULT

The program done successfully.

OUTPUT

```
enter the rol no:1

enter name:Anu

enter the marks of student:
mark1=34

mark2=35

mark3=33

enter phone no:987654321

 Student details
Roll No:1
Name:Anu
Mark1=34
Mark2=35
Mark3 =33
Sum of mark=102
Phone no:987654321
```

Program:39

Date:

USAGE OF STRUCTURE

AIM

Write a program to create a student record using structure

PROGRAM

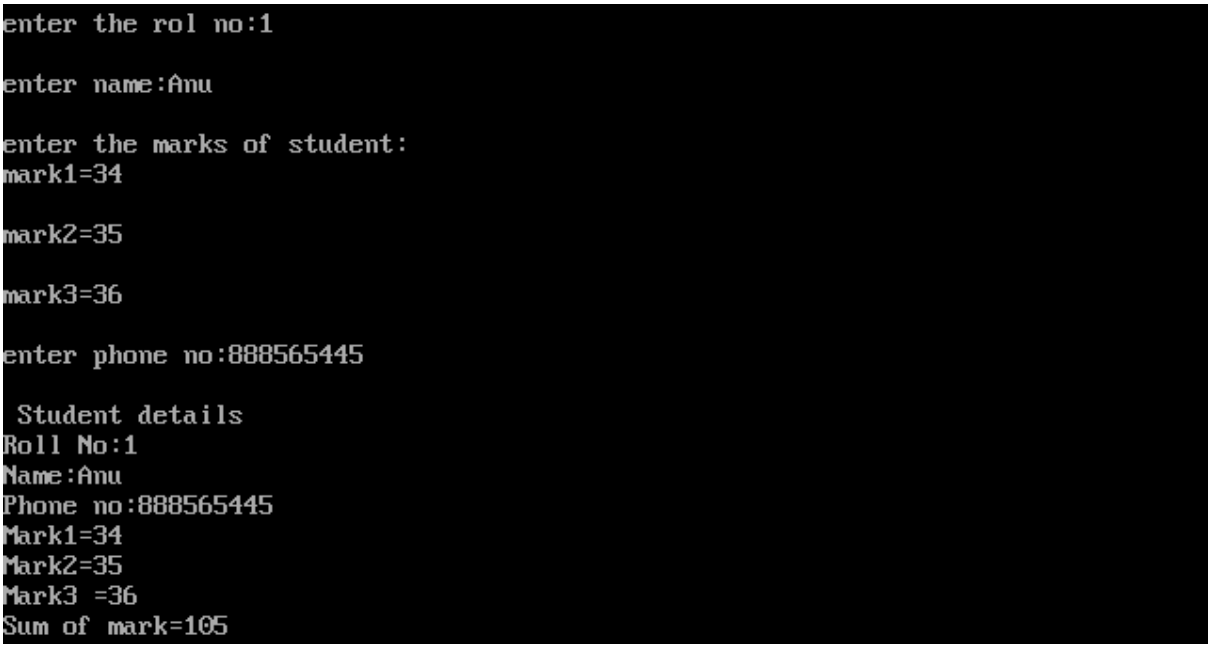
```
#include<stdio.h>
#include<conio.h>
struct student
{
int rollno;
char name[25];
int mark1,mark2,mark3;
char phno[10];
}s;
void main(){
int sum=0;
printf("\nenter the rol no:");
scanf("%d",&s.rollno);
printf("\nenter name:");
scanf("%s",s.name);
printf("\nenter the marks of student:");
```

```
printf("\nmark1=");
scanf("%d",&s.mark1);
printf("\nmark2=");
scanf("%d",&s.mark2);
printf("\nmark3=");
scanf("%d",&s.mark3);
sum=s.mark1+s.mark2+s.mark3;
printf("\nenter phone no:");
scanf("%s",s.phno);
printf("\n Student details");
printf("\nRoll No:%d",s.rollno);
printf("\nName:%s",s.name);
printf("\nPhone no:%s",s.phno);
printf("\nMark1=%d",s.mark1);
printf("\nMark2=%d",s.mark2);
printf("\nMark3 =%d",s.mark3);
printf("\nSum of mark=%d",sum);
 getch();
 }
```

RESULT

The program is done successfully.

OUTPUT


enter the rol no:1
enter name:Anu
enter the marks of student:
mark1=34
mark2=35
mark3=36
enter phone no:888565445
Student details
Roll No:1
Name:Anu
Phone no:888565445
Mark1=34
Mark2=35
Mark3 =36
Sum of mark=105

Program:40

Date:

USAGE OF UNION

AIM

Write a program to illustrate the usage of union

PROGRAM

```
#include<stdio.h>
#include<conio.h>
union example{
int i;float f;
char str[20];
};void main()
union example eg;
eg.i=10;printf("\neg.i=%d",eg.i);
eg.f=20.5;
printf("\neg.f=%f",eg.f);
strcpy(eg.str,"hello world");
printf("\neg.str=%s",eg.str);
getch();
}
```

RESULT

The program is done successfully.

OUTPUT

```
eg.i=10
eg.f=20.500000
eg.str=hello world_
```

Program:41

Date:

EMPLOYEE RECORD USING FILE

AIM

Write a program to create an employee record using file.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void employee_entry();
void employee_list();
struct emp
{
int empid;
char name[20],place[50],desig[20];
double sallary;
}e;

void main()
{
FILE *fp;
int x,n;
do{
printf("\nMENU");
```

```
printf("\n1.EMPLOYEE ENTRY");
printf("\n2.EMPLOYEE LIST");
printf("\nEnter your choice:");
scanf("%d",&x);
switch(x)
{
case 1:employee_entry();
break;
case 2:employee_list();
break;
}
printf("\nDo u want to continue(1.yes/2.no):");
scanf("%d",&n);
}while(n==1);
getch();
}
void employee_entry()
{
FILE *fp;
fp=fopen("employee.txt","a");
printf("\nEnter the employee id:");
scanf("%d",&e.empid);
printf("\nEnter the name:");
scanf("%s",&e.name);
printf("\nEnter the place:");
scanf("%s",&e.place);
```

```
printf("\nEnter the designation:");

scanf("%s",&e.desig);

printf("\nEnter the sallary:");

scanf("%d",&e.sallary);

fprintf(fp,"%d",e.empid);

fprintf(fp,"\t%s\t%s\t%s\t",e.name,e.place,e.desig);

fprintf(fp,"%d",e.sallary);

fprintf(fp,"\n");

fclose(fp);

}

void employee_list()

{

FILE *fp;

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

while(fscanf(fp,"%d\t%s\t%s\t%s\t%d\n",&e.empid,&e.name,&e.place,&e.desig,&e.sallary)!=EOF)

{

printf("%d\t%s\t%s\t%s\t%d\n",e.empid,e.name,e.place,e.desig,e.sallary);
}
fclose(fp);
}
```

RESULT

The program is done successfully.

OUTPUT

```
2.EMPLOYEE LIST
Enter your choice:1

Enter the employee id:5

Enter the name:Aishu

Enter the place:ekm

Enter the designation:staff

Enter the sallary:32000

Do u want to continue(1.yes/2.no):1

MENU
1.EMPLOYEE ENTRY
2.EMPLOYEE LIST
Enter your choice:2
1       Akhi    Aluva   Tester  -27976
2       anu     paravoor        engineer        -10536
10      Achu    kalmassery      staff   32000
5       Aishu   ekm     staff   32000

Do u want to continue(1.yes/2.no):
```

Program:42

Date:

STUDENT RECORD USING FILE

AIM

Write a program to create student record using file.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
void student_entry();
void student_list();
struct std
{
int stdid;
char name[20],place[50],desig[20];
char phno[20];
}e;

void main()
{
FILE *fp;
int x,n;
do{
```

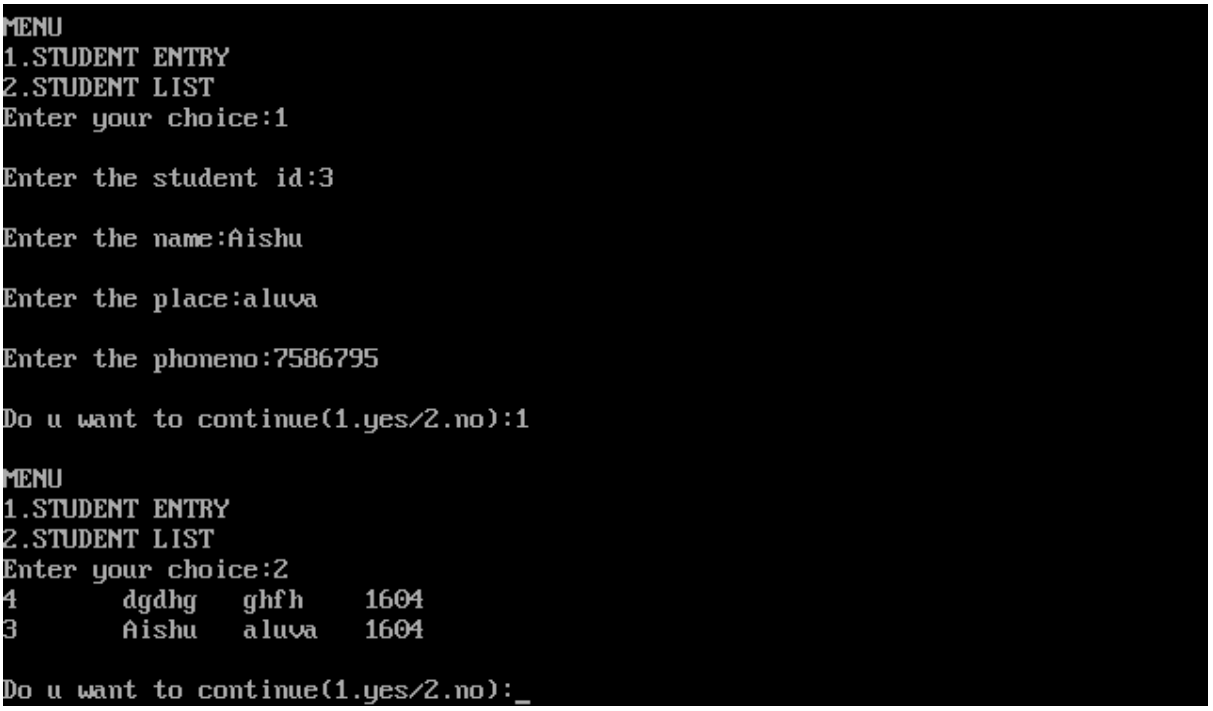
```
printf("\nMENU");
printf("\n1.STUDENT ENTRY");
printf("\n2.STUDENT LIST");
printf("\nEnter your choice:");
scanf("%d",&x);
switch(x)
{
case 1:student_entry();
break;
case 2:student_list();
break;
}
printf("\nDo u want to continue(1.yes/2.no):");
scanf("%d",&n);
}while(n==1);
getch();
}
void student_entry()
{
FILE *fp;
fp=fopen("student.txt","a");
printf("\nEnter the student id:");
scanf("%d",&e.stdid);
printf("\nEnter the name:");
scanf("%s",&e.name);
printf("\nEnter the place:");
```

```
scanf("%s",&e.place);


printf("\nEnter the phoneno:");
scanf("%d",&e.phno);
fprintf(fp,"%d",e.stdid);
fprintf(fp,"\t%s\t%s\t",e.name,e.place);
fprintf(fp,"%d",e.phno);
fprintf(fp,"\n");
fclose(fp);
}
void student_list()
{
FILE *fp;
fp=fopen("student.txt","r");
while(fscanf(fp,"%d\t%s\t%s\t%d\n",&e.stdid,&e.name,&e.place,&e.phno)!=EOF)
{
printf("%d\t%s\t%s\t%d\n",e.stdid,e.name,e.place,e.phno);
}
fclose(fp);
}
```

RESULT

The program done successfully.

OUTPUT


MENU
1.STUDENT ENTRY
2.STUDENT LIST
Enter your choice:1
Enter the student id:3
Enter the name:Aishu
Enter the place:aluva
Enter the phoneno:7586795
Do u want to continue(1.yes/2.no):1
MENU
1.STUDENT ENTRY
2.STUDENT LIST
Enter your choice:2
4 dgdhg ghfh 1604
3 Aishu aluva 1604
Do u want to continue(1.yes/2.no):_

Program:43
Date:

SIMPLE PROJECT

AIM

Write using project using c

Program

```
#include<stdio.h>

#include<conio.h>

#include<string.h>


void travelmain(char uname[25]);

void packagebook(char uname[25]);

void printbrouchure();

void printticket(char uname[25]);

void cancelticket(char uname[25]);

void logout();

void restoring();

/*int login(char a[20],char b[20]);*/



void packagebook(char uname[])

{



FILE *fpt,*fp;

int i,persons,id,price,choice,tprice,date[25];
```

```
char name[25],days[25],dest[25];
printbrouchure();
fpt=fopen("travellers.txt","a+");
fp=fopen("tours.txt","r");
if(fpt==NULL)
{
printf("there is some problem in open your file");
}
else
{
printf("enter your choice(id of travel package :");
scanf("%d",&i);

printf("enter the no of persons:");
scanf("%d",&persons);
printf("enter date for booking:");
scanf("%s",&date);
while(fscanf(fp,"%d%s%s%s%d",&id,&name,&days,&dest,&price)!=EOF)
{
if(id==i)
{
tprice=price*persons;

}
}
printf("\nthe total amount is:%d",tprice);
```

```
printf("\nare you sure ,confirm booking:(1.yes,2.no):");
scanf("%d",&choice);
if(choice==1)
{
fprintf(fpt,"\n");
fprintf(fpt,"%s",uname);
fprintf(fpt,"\n");
fprintf(fpt,"%d",i);
fprintf(fpt,"\n");
fprintf(fpt,"%d",persons);
fprintf(fpt,"\n");
fprintf(fpt,"%d",tprice);
fprintf(fpt,"\n");
fprintf(fpt,"%s",date);

printf("**your booking is successfull**!");
}
else
{
printf("thankyou for your visit");
}

}}
/*****************printing package*******************/
void printbrouchure()
{
```

```
FILE *fp;
char place[35],destns[15],days[35];
int price,id;
fp=fopen("tours.txt","a");
if(fp==NULL)
{
printf("filedoesn't exist");
}
else{
fp=fopen("tours.txt","r");
printf("id\tplace\tdestinations\tdays\tprice\n");
while(fscanf(fp,"%d\n%s\n%s\n%s\n%d",&id,&place,&destns,&days,&price)!=EOF)
{
printf("%d\t%s\t\t%s\t%s\t%d\n",id,place,destns,days,price);
}
}
fclose(fp);
}



/**********************************print ticket*******************/
void printticket(char uname[])
{

char name[25],date[20];
int id,persons,price;
```

```
int f=0;
FILE *fpt=fopen("travellers.txt","r");
while(fscanf(fpt,"%s%d%d%d%s",&name,&id,&persons,&price,&date)!=EOF)
{

int v=strcmp(uname,name);
if(v==0)
{
printf("*********************************************");

printf("\n**travelling id:%d",id);
printf("\n**no of persons:%d",persons);
printf("\n**the price amount is:%d",price);
printf("\n**the price amount is:%s",date);
printf("\n*********************************************");

f=1;
}
}

if(f==0)
printf("sorry ! you don't have any bookings");
}
/**********************cancel ticket**************************/
void cancelticket(char uname[])
{
```

```
char name[25],date[20];
int id,persons,price;
FILE *fpt=fopen("travellers.txt","a+");
FILE *fptt=fopen("travel.txt","a+");
/************storing the details to anothe fil****/
while(fscanf(fpt,"%s%d%d%d%s",&name,&id,&persons,&price,&date)!=EOF)
{

int v=strcmp(uname,name);

if(v!=0)
{
fprintf(fptt,"%s",name);
fprintf(fptt,"\n");
fprintf(fptt,"%d",id);
fprintf(fptt,"\n");
fprintf(fptt,"%d",persons);
fprintf(fptt,"\n");
fprintf(fptt,"%d",price);
fprintf(fptt,"\n");
fprintf(fptt,"%s",date);
fprintf(fptt,"\n");



}
```

```
}
fclose(fptt);
restoring();
}

/*****storing back to original file****************/
void restoring()
{
FILE *f,*fpt;
char name[20],date[20];
int id,persons,price;
f=fopen("travel.txt","r");
fpt=fopen("travellers.txt","w");
while(fscanf(f,"%s%d%d%d%s",&name,&id,&persons,&price,&date)!=EOF)
{

fprintf(fpt,"%s",name);
fprintf(fpt,"\n");
fprintf(fpt,"%d",id);
fprintf(fpt,"\n");
fprintf(fpt,"%d",persons);
fprintf(fpt,"\n");
fprintf(fpt,"%d",price);
fprintf(fpt,"\n");
fprintf(fpt,"%s",date);
fprintf(fpt,"\n");
```

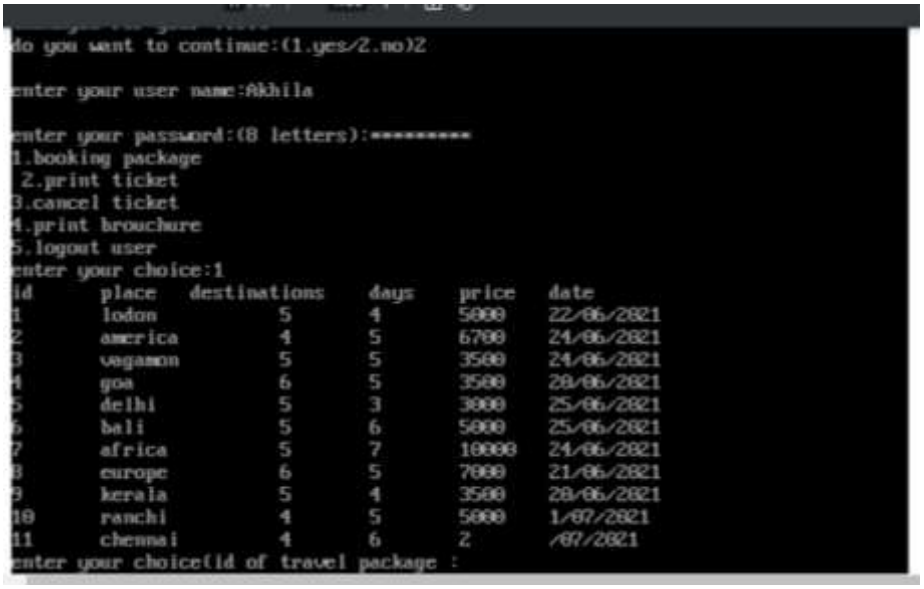
```
}
fclose(f);
f=fopen("travel.txt","w");
fclose(fpt);

printf("***your cancellation is successfull***");




}

void logout()
{
printf("\nthankyou for your visit");
getch();
exit();
}

void travelmain(char uname[])
{

int i;



do{
```

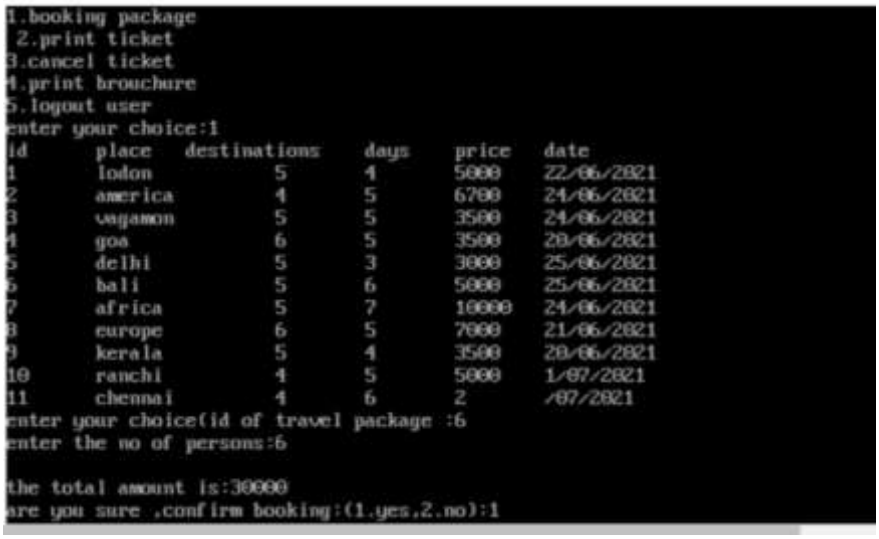
```
printf("\n\t1.booking package\n\t 2.print ticket\n\t3.cancel ticket\n\t4.print brouchure\n\t5.logout user");
printf("\nenter your choice:");
scanf("%d",&i);
switch(i)
{
case 1:packagebook(uname);
break;
case 2:printticket(uname);
break;
case 3:cancelticket(uname);
break;
case 4:printbrouchure();
break;
case 5:logout();
break;
}
}while(i<=5);
getch();
}
```

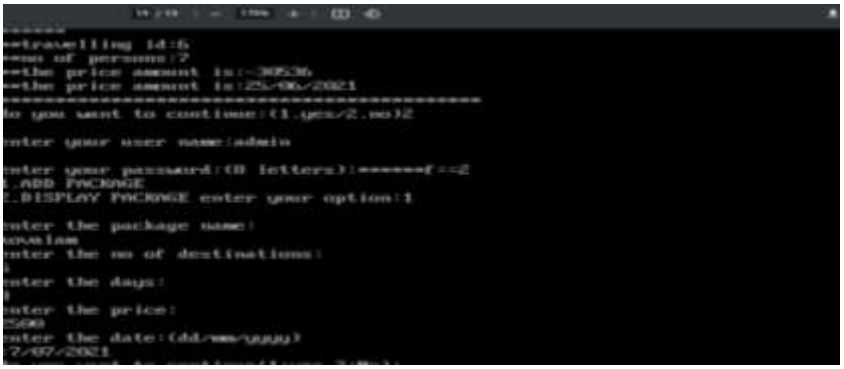
RESULT

The program is done and output is obtained

OUTPUT


do you want to continue:(1.yes/2.no)2
enter your user name:Akhila
enter your password:(8 letters):*********
1.booking package
2.print ticket
3.cancel ticket
4.print brouchure
5.logout user
enter your choice:1
id place destinations days price date
1 lodon 5 4 5000 22/06/2021
2 america 4 5 6700 24/06/2021
3 vagamon 5 5 3500 24/06/2021
4 goa 6 5 3500 20/06/2021
5 delhi 5 3 3000 25/06/2021
6 bali 5 6 5000 25/06/2021
7 africa 5 7 10000 24/06/2021
8 europe 6 5 7000 21/06/2021
9 kerala 5 4 3500 20/06/2021
10 ranchi 4 5 5000 1/07/2021
11 chennai 4 6 2 /07/2021
enter your choice(id of travel package :


1.booking package
2.print ticket
3.cancel ticket
4.print brouchure
5.logout user
enter your choice:1
id place destinations days price date
1 lodon 5 4 5000 22/06/2021
2 america 4 5 6700 24/06/2021
3 vagamon 5 5 3500 24/06/2021
4 goa 6 5 3500 20/06/2021
5 delhi 5 3 3000 25/06/2021
6 bali 5 6 5000 25/06/2021
7 africa 5 7 10000 24/06/2021
8 europe 6 5 7000 21/06/2021
9 kerala 5 4 3500 20/06/2021
10 ranchi 4 5 5000 1/07/2021
11 chennai 4 6 2 /07/2021
enter your choice(id of travel package :6
enter the no of persons:6
the total amount is:30000
are you sure ,confirm booking:(1.yes,2.no):1


enter your user name:admin
1.ADD PACKAGE
2.DISPLAY PACKAGE enter your option:1
enter the package name:
enter the no of destinations:
enter the days:
enter the price:
enter the date:(dd/mm/yyyy)