Q.1 write a program to print a massage on the screen.

```
#include <iostream>
using namespace std;
int main() {
cout<<"Hello world";
   return 0;
}
```

OUTPUT:-

Q.2 write a program to perform arithmetic operator on two number

```
#include <iostream>
using namespace std;
int main() {
   int x,y,sum,sub,mul,divied,mod;
cout<<"enter the value of x and y :";
cin>>x>>y;
sum=x+y;
sub=x-y;
mul=x*y;
divied=x/y;
mod=x%y;
cout<<"sum :"<<sum<<endl;
cout<<"sub :"<<sub<<endl;
cout<<"mul :"<<mul<<endl;
cout<<"divied :"<<divied<<endl;
cout<<"modulus :"<<mod<<endl;
   return 0;
}
```

OUTPUT:-

```
enter the value of x and y :5
6
sum :11
sub :-1
mul :30
divied :0
modulus :5
```

Q.3 Write a program to use conditional ,size ,scope resolution ,unary operator

```
#include <iostream>
using namespace std;
int x=50;
int main() {
   int a=15, b=25;
   //conditional operator
   int max=(a>b) ? a : b;
   cout<<"max is="<<a<<b<<max<<endl;
   //size of operator
   cout<<"size of int="<<sizeof(int)<<"bytes"<<endl;
   cout<<"sizeof float="<<sizeof(float)<<"bytes"<<endl;
   //scope resolution operatop
   int x=100;
   cout<<"local x="<<x<<endl;
   cout<<"global x="<<::x<<endl;
   //unary operator
   int y=10;
   cout<<"unary operator:y="<<y++<<endl;
   cout<<"unary operator:y="<<y--<<endl;
   return 0;
}
```

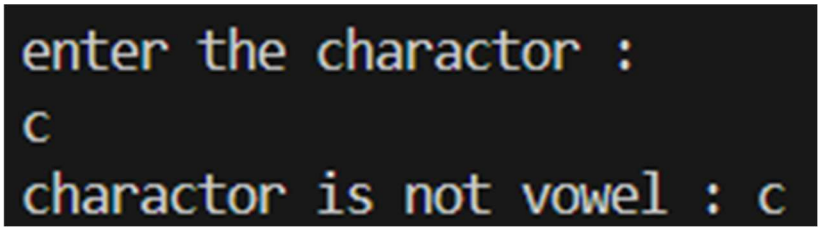
OUTPUT :-

```
max is=152525
size of int=4bytes
sizeof float=4bytes
local x=100
global x=50
unary operator:y=10
unary operator:y=11
```

Q.4 write a program to check whether a character is vowels or not.

```
#include <iostream>

using namespace std;

int main() {

  char ch;

   cout<<"enter the charactor :"<<endl;

   cin>>ch;

   //check for vowels.

  if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u' || ch=='A' || ch=='E' || ch=='I' || ch=='O'
|| ch=='U')

   {

      cout<<"charactor is vowel"<<ch<<endl;

   }

   else

   {

      cout<<"charactor is not vowel"<<ch<<endl;

   }

   return 0;

}
```

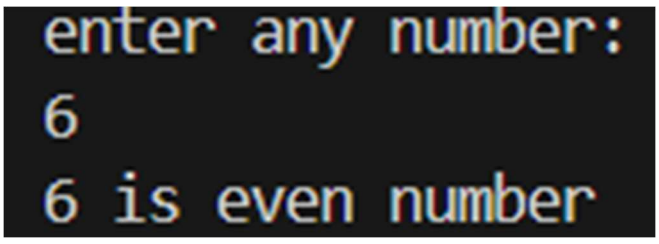
OUTPUT :-

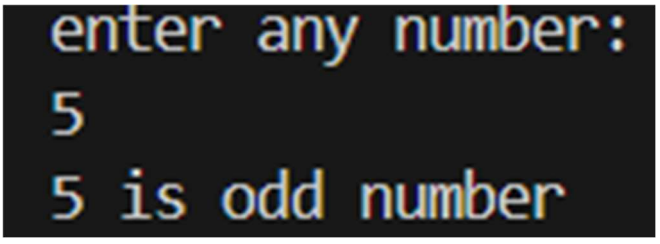


Q.5 Write a program to check whether the given no is even or odd

```
#include <iostream>

using namespace std;

int main(){

  int x;

   cout<<"enter any number:"<<endl;

   cin>>x;

   //check for even or odd.

  if(x%2==0)

   {

      cout<<x<<" is even number"<<endl;

   } else {

      cout<<x<<"is odd number"<<endl;

   }

   return 0;

}
```

OUTPUT:-





Q.6 Wap to print the day of a week corresponding to a number entered by user .

```
#include <iostream>
using namespace std;
int main() {
  int n;
  cout<<"enter any no b/w 1 to 7 ";
  cin>>n;
  switch(n)  {
   case 1:cout<<"sunday"<<endl;
   break;
   case 2:cout<<"monday"<<endl;
   break;
   case 3:cout<<"tuesday"<<endl;
   break;
   case 4:cout<<"wednesday"<<endl;
   break;
   case 5:cout<<"thursday"<<endl;
   break;
   case 6:cout<<"friday"<<endl;
   break;
   case 7:cout<<"saturday"<<endl;
   break;
   default:cout<<"plz enter the value b/w 1 to 7"<<endl;
  }
   return 0;
}
```

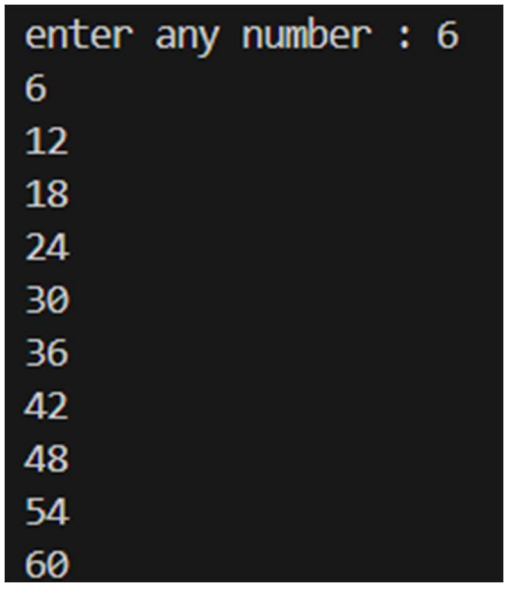
OUTPUT:-

```
enter any no b/w 1 to 7 : 4
wednesday
```

Q.7 Write a program to print multiplication of table of a number.

```
#include <iostream>
using namespace std;
int main() {
  int n;
  cout<<"enter any number : ";
  cin>>n;
  for(int i=1;i<=10;i++)
  {
   cout<<n*i<<endl;
  }
    return 0;
}
```

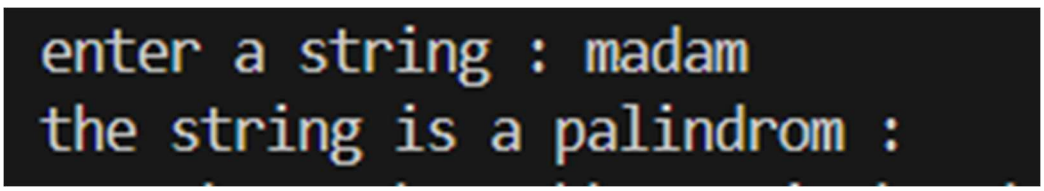
OUTPUT :-



Q.8 write a program to check whether a string is palindrome or not.

```
#include <iostream>
#include<string>
using namespace std;
int main() {
  string str;
  cout<<"enter a string : ";
  cin>>str;
  int n= str.length();
  bool ispalindrom = true;
  for(int i=0;i<n/2;i++)
  {
   if(str[i] != str[n-i-1])
   {
      ispalindrom = false;
   }
  }
  if(ispalindrom){
  cout<<"the string is a palindrom :"<<endl;
   } else{
   cout<<"the string is not palindrom :"<<endl;
  }
   return 0;
}
```

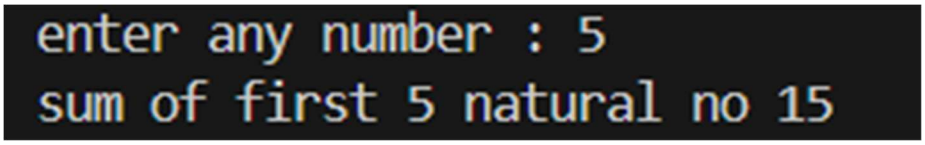
OUTPUT :-



Q.9 WAP to find sum of first n natural no using do-while loop.

```
#include <iostream>
using namespace std;
int main() {
  int n,i=1,sum=0;
  cout<<"enter any number : ";
  cin>>n;
  do{
     sum = sum+ i;
     i++;
  }while(i<=n);
  cout<<"sum of first "<<n<<" natural no "<<sum<<endl;

   return 0;
}
```

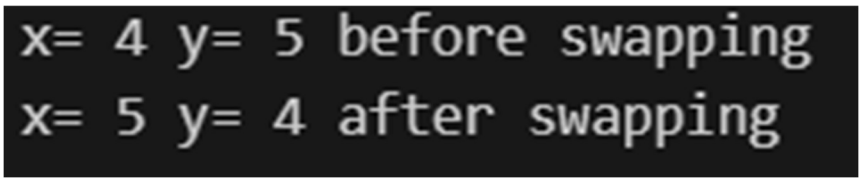
OUTPUT :-



Q.10 WAP to swap two numbers using function.

```
#include<iostream>
using namespace std;
//swap function
void swap(int &a,int  &b){
int temp=a;
a=b;
b=temp;
}
int main(){
int x=4;
int y=5;
cout << "x= "<<x << " y= "<< y << " before swapping"<<endl;
swap(x,y);
cout << "x= "<<x << " y= "<< y << " after swapping"<<endl;
  return 0;
}
```

OUTPUT :-



Q.11 WAP to implement String function's

```
#include<iostream>
#include<string>
using namespace std;

int main(){
string name="rasid";
string surname="ekbal";
//length of string
cout <<name <<" contains " << name.length() << " letters"<<endl;
// string concationation
string fullname=name+" "+surname;
cout << fullname<<endl;
//access char of string at specific index
cout <<"char at index 0 in "<<name << " : "<< name.at(0)<<endl;
//substring of a given string
cout <<"substring form name : "<< name.substr(0,2) <<endl;
// inserting into a string
name.insert(5, " ekbal");
cout << "after inserting ekbal : "<<name <<endl;
// erase from string
name.erase (5,name.length());
cout << "name after erasing ekbal : " << name<<endl;
//replacing charaters in string
name.replace(0,5,"rahul");
cout << "after replacing : "<<name <<endl;
```

```
return 0;

}
```

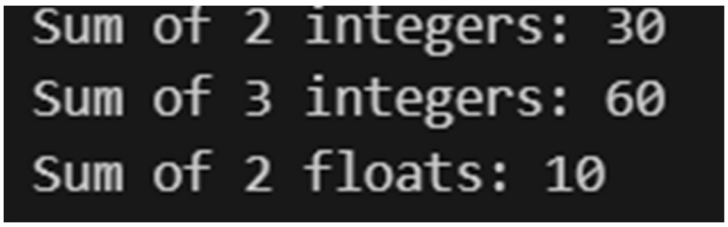
OUTPUT :-

```
rasid contains 5 letters
rasid ekbal
char at index 0 in rasid : r
substring form name : ra
after inserting ekbal : rasid ekbal
name after erasing ekbal : rasid
after replacing : rahul
```

Q.12 WAP to implement function overloading.

```
#include <iostream>
using namespace std;
// Function to add two integers
int add(int a, int b) {
    return a + b;
}
// Function to add three integers
int add(int a, int b, int c) {
    return a + b + c;
}
// Function to add two floating numbers
float add(float a, float b) {
    return a + b;
}
int main() {
    cout << "Sum of 2 integers: " << add(10, 20) << endl;
    cout << "Sum of 3 integers: " << add(10, 20, 30) << endl;
    cout << "Sum of 2 floats: " << add(5.5f, 4.5f) << endl;
    return 0;
}
```

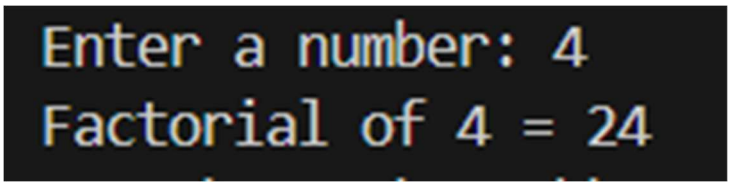
OUTPUT :-



Q.13 WAP to make use of recursive function.

```
#include <iostream>

using namespace std;


// Recursive function to calculate factorial

int factorial(int n) {

   if (n == 0 || n == 1)  {

      return 1;

}

   else{

      return n * factorial(n - 1);

}

}


int main() {

   int num;

   cout << "Enter a number: ";

   cin >> num;

   cout << "Factorial of " << num << " = " << factorial(num) << endl;

   return 0;

}
```

OUTPUT :-



Q.14 WAP to find average of elements of an array.

```
#include<iostream>
using namespace std;
int main(){
 int n;
 double avg=0;
 cout << "enter array size :";
 cin >>n;
 int  array[n];
 cout << "enter "<< n << " elements : "<<endl;
 for(int i=0;i<n;i++){
 cout << "enter element for index "<<i <<" : ";
 cin >> array[i];
 avg+=array[i];
 }
 avg=avg/n;
 cout << "avg : "<<avg;
return 0;
}
```

OUTPUT:-

```
enter array size :5
enter 5 elements :
enter element for index 0 : 1
enter element for index 1 : 3
enter element for index 2 : 5
enter element for index 3 : 7
enter element for index 4 : 8
avg : 4.8
```

Q.15 WAP to display largest element of an array.

```
#include<iostream>
using namespace std;
int main(){
  int n;
  int largest;
  cout << "enter array size :";
  cin >>n;
 int  array[n];
 cout << "enter "<< n << " elements : "<<endl;
 for(int i=0;i<n;i++){
  cout << "enter element for index "<<i <<" : ";
  cin >> array[i];
if(i==0){
largest=array[0];}
  if(array[i]>largest){
    largest=array[i];
  } }
   cout << "largest element of array is :" <<largest <<endl;
 return 0;
 }
```

OUTPUT :-

```
enter array size :5
enter 5 elements :
enter element for index 0 : -12
enter element for index 1 : 45
enter element for index 2 : -85
enter element for index 3 : 0
enter element for index 4 : 2
largest element of array is :45
```