INTRODUCTION OF PROGRAMMING

Assignment: 1

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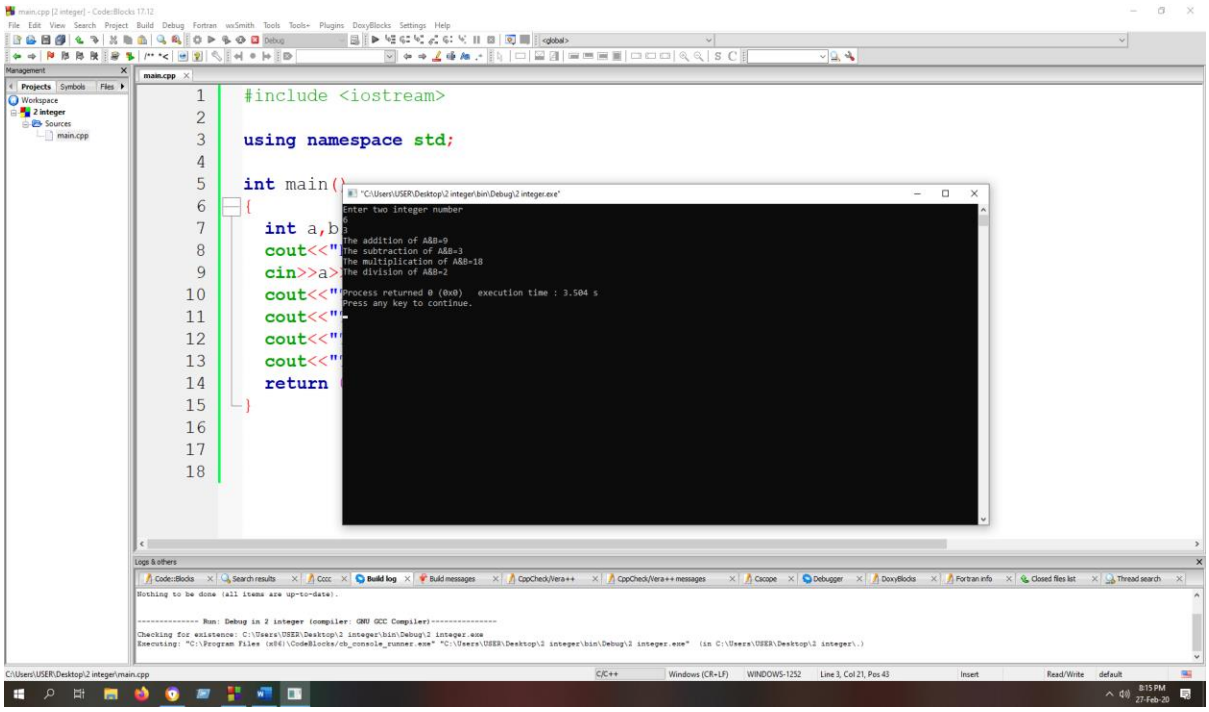
Section:- *B5*

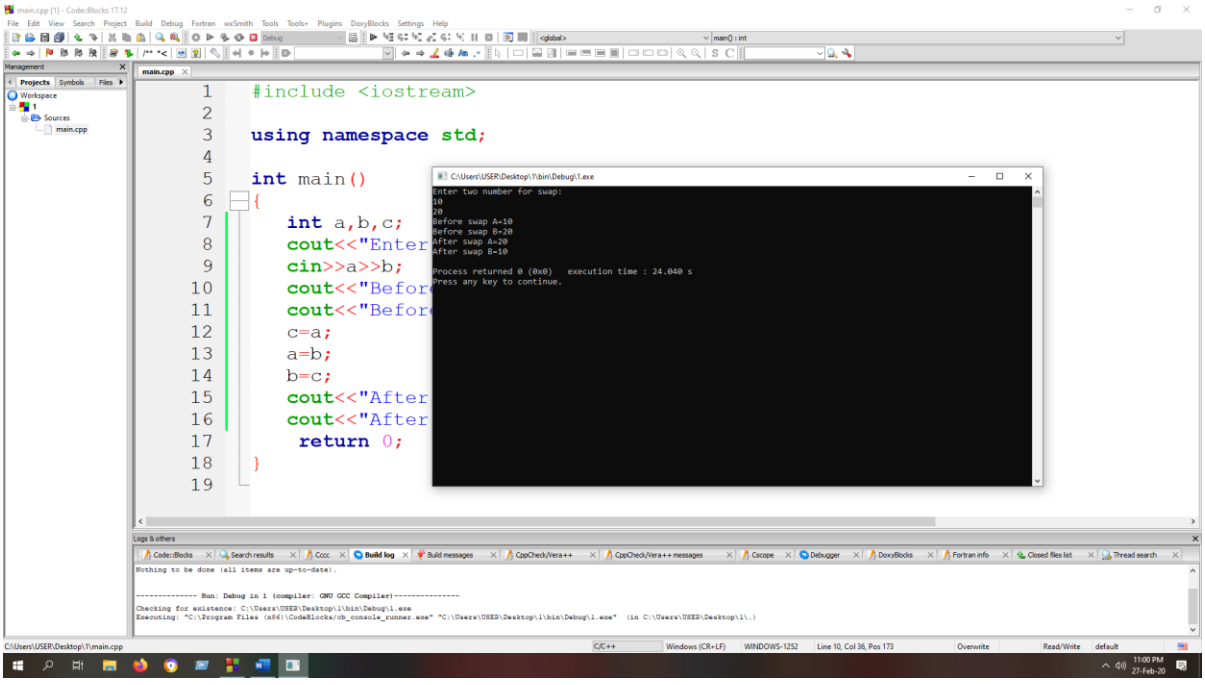
1. A program operation for two integer variables:-

```
#include <iostream>

using namespace std;

int main()
{
 int a,b;
 cout<<"Enter two integer number"<<endl;
 cin>>a>>b;
 cout<<"The addition of A&B="<< a+b <<endl;
 cout<<"The subtraction of A&B="<< a-b <<endl;
 cout<<"The multiplication of A&B="<< a*b <<endl;
 cout<<"The division of A&B="<< a/b <<endl;
 return 0;
}
```



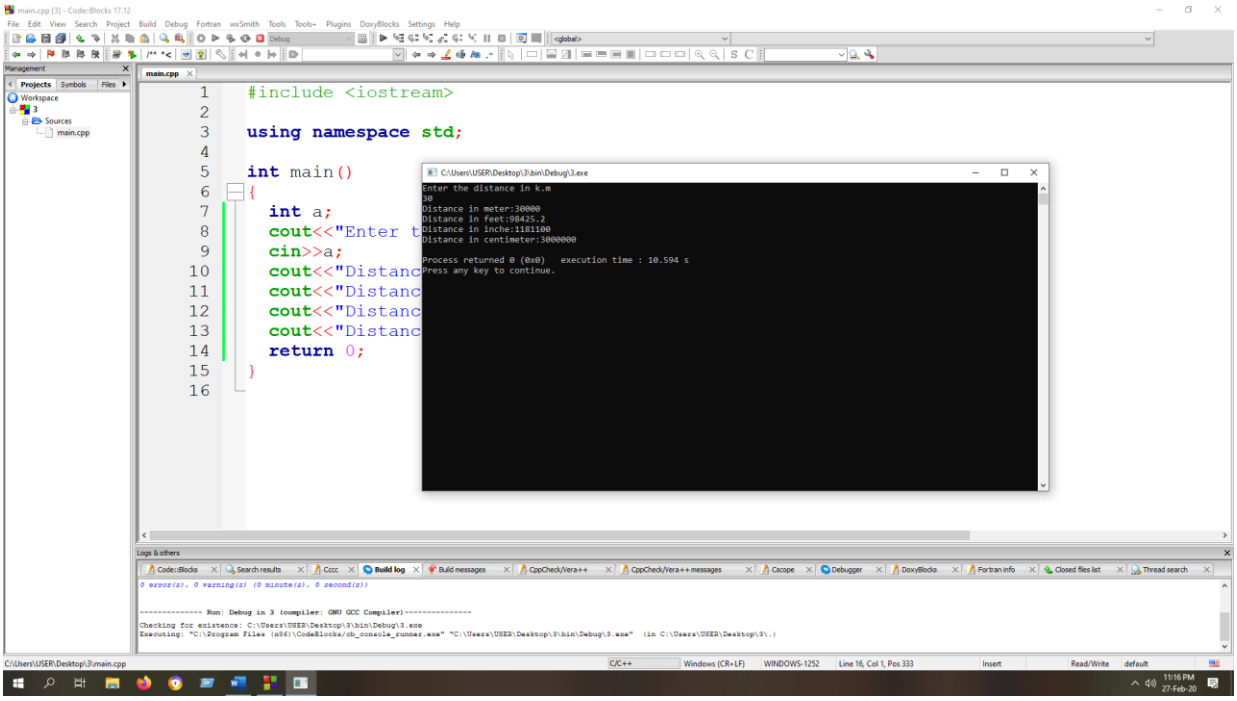
2. A Program to swap two values:-

```
#include <iostream>

using namespace std;

int main()
{
  int a,b,c;
  cout<<"Enter two number for swap:"<<endl;
  cin>>a>>b;
  cout<<"Before swap A="<<a<<endl;
  cout<<"Before swap B="<<b<<endl;
  c=a;
  a=b;
  b=c;
  cout<<"After swap A="<<a<<endl;
  cout<<"After swap B="<<b<<endl;
   return 0;
}
```



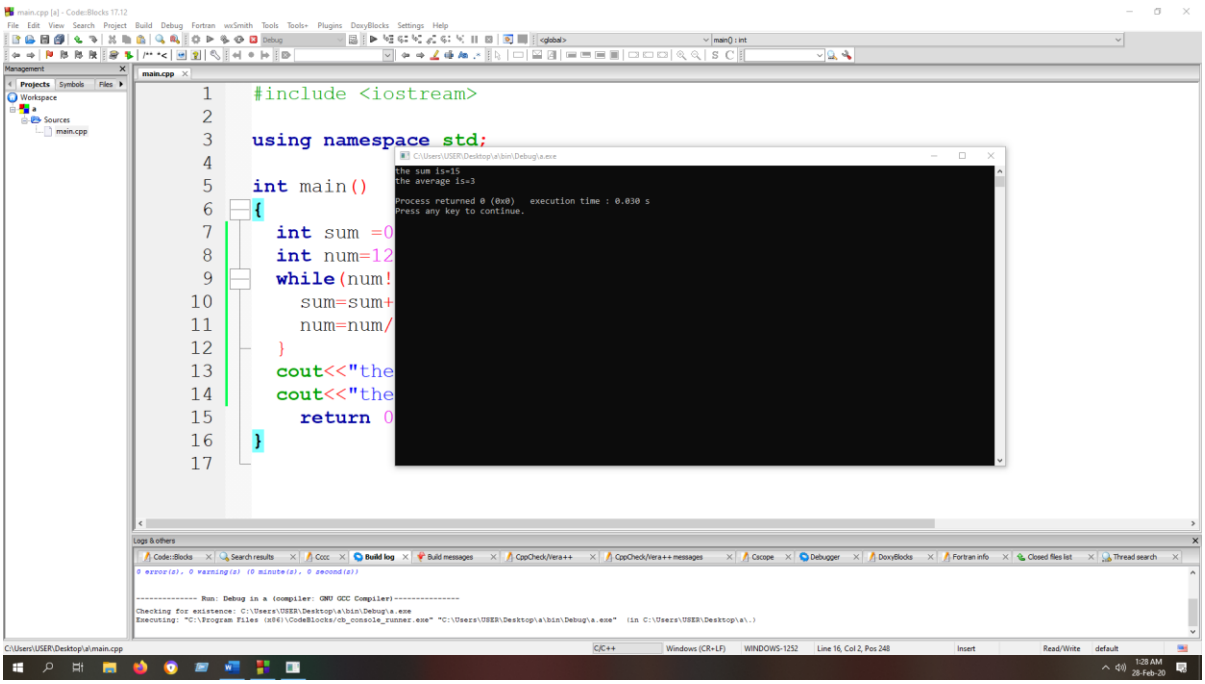
3. A Program to convert two cities distance into different units:-

```
#include <iostream>

using namespace std;

int main()
{
  int a;
  cout<<"Enter the distance in k.m"<<endl;
  cin>>a;
  cout<<"Distance in meter:"<<a*1000<<endl;
  cout<<"Distance in feet:"<<a*3280.84<<endl;
  cout<<"Distance in inche:"<<a*39370<<endl;
  cout<<"Distance in centimeter:"<<a*100000<<endl;
  return 0;
}
```



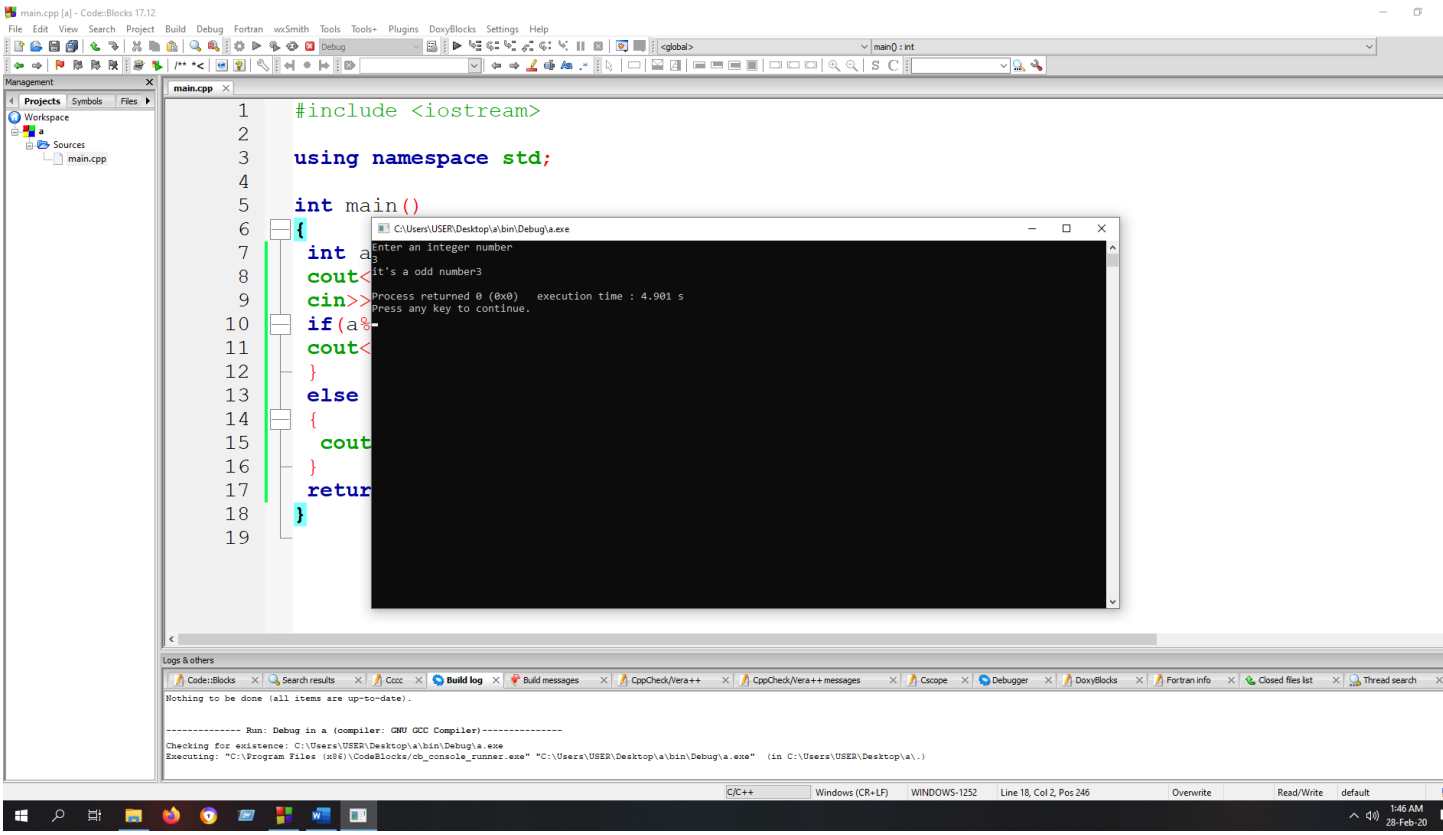
4. A Program to calculate the sum of digits and the average:-

```
#include <iostream>

using namespace std;

int main()
{
 int sum =0;
 int num=12345;
 while(num!=0){
  sum=sum+num%10;
  num=num/10;
 }
 cout<<"the sum is="<<sum<<endl;
 cout<<"the average is="<<sum/5<<endl;
  return 0;
}
```



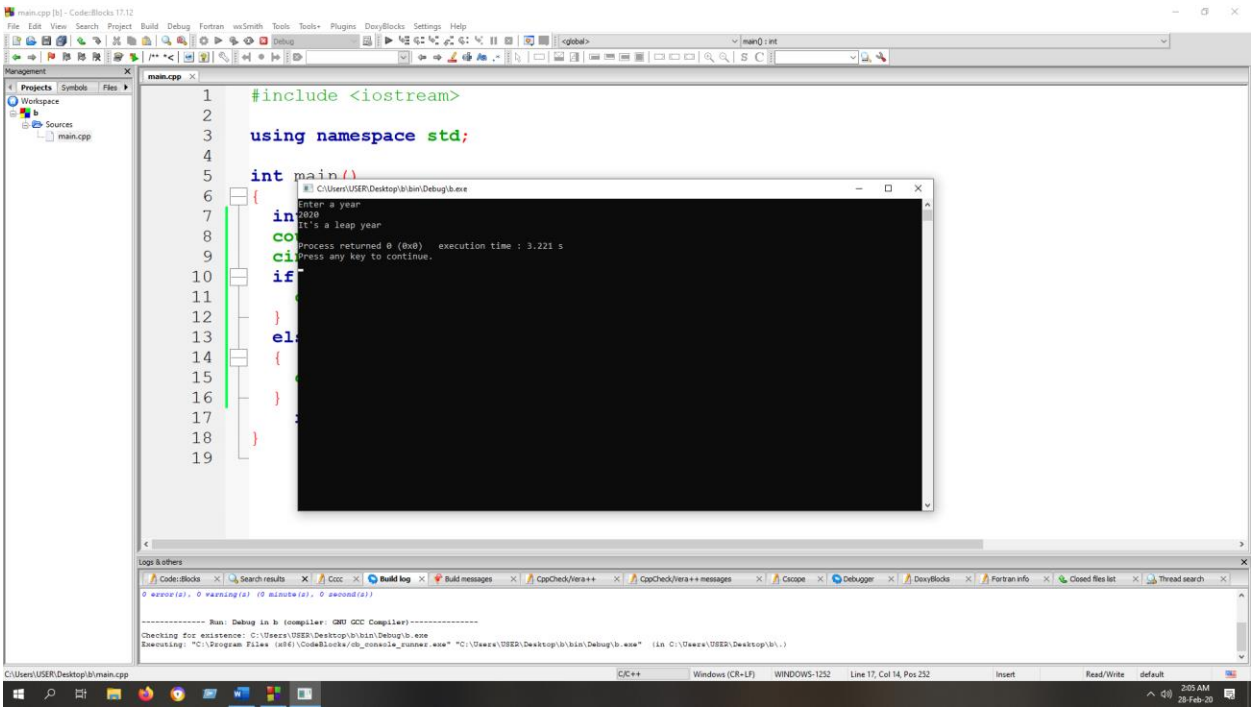
5. A Program to find out an odd number or an even number:-

```
#include <iostream>
using namespace std;
int main()
{
 int a;
 cout<<"Enter an integer number"<<endl;
 cin>>a;
 if(a%2==0){
 cout<<"it's a even number"<<a<<endl;
 }
 else
 {
 cout<<"it's a odd number"<<a<<endl;
 }
 return 0;
}
```


main.cpp [a] - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Management
Projects Symbols Files
Workspace
a
Sources
main.cpp
main.cpp
#include <iostream>
using namespace std;
int main()
{
int a
cout<
cin>>
if(a%
cout<
}
else
{
cout
}
retur
}
C:\Users\USER\Desktop\a\bin\Debug\a.exe
Enter an integer number
3
it's a odd number3
Process returned 0 (0x0) execution time : 4.901 s
Press any key to continue.
Logs & others
Code::Blocks
Search results
Cccc
Build log
Build messages
CppCheck/Vera++
CppCheck/Vera++ messages
Cscope
Debugger
DoxyBlocks
Fortran info
Closed files list
Thread search
Nothing to be done (all items are up-to-date).
---------- Run: Debug in a (compiler: GNU GCC Compiler)----------
Checking for existence: C:\Users\USER\Desktop\a\bin\Debug\a.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\Users\USER\Desktop\a\bin\Debug\a.exe" (in C:\Users\USER\Desktop\a\.)
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 18, Col 2, Pos 246
Overwrite
Read/Write
default
1:46 AM
28-Feb-20

6. A Program to determine the year is leap year or not:-

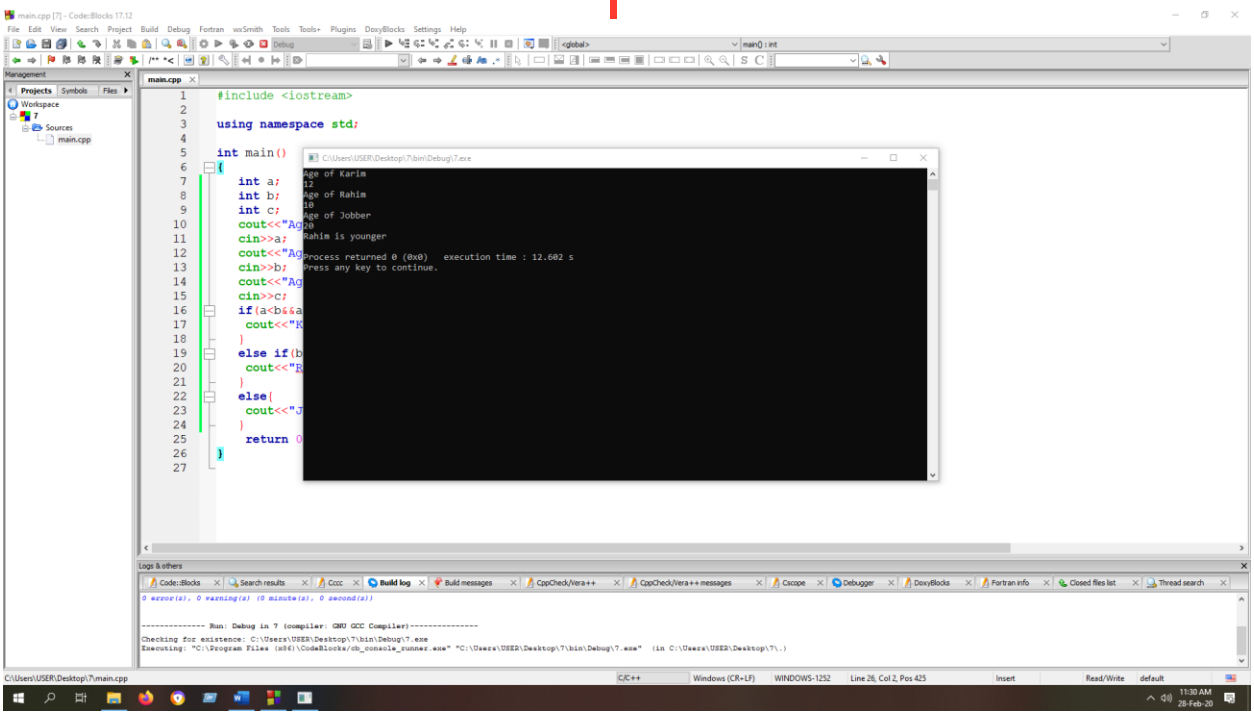
```
#include <iostream>
using namespace std;
int main()
{
  int year;
  cout<<"Enter a year"<<endl;
  cin>>year;
  if(year%4==0){
    cout<<"It's a leap year"<<endl;
  }
  else
  {
    cout<<"It's not a leap year"<<endl;
  }
    return 0;
}
```


main.cpp [b] - Code::Blocks 17.12
#include <iostream>
using namespace std;
int main()
{
int
cout
cin
if
}
else
{
}
}
C:\Users\USER\Desktop\b\bin\Debug\b.exe
Enter a year
2020
It's a leap year
Process returned 0 (0x0) execution time : 3.221 s
Press any key to continue.
Logs & others
0 error(s), 0 warning(s) (0 minute(s), 0 second(s))
---------- Run: Debug in b (compiler: GNU GCC Compiler)----------
Checking for existence: C:\Users\USER\Desktop\b\bin\Debug\b.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\Users\USER\Desktop\b\bin\Debug\b.exe" (in C:\Users\USER\Desktop\b\.)
C:\Users\USER\Desktop\b\main.cpp
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 17, Col 14, Pos 252
Insert
Read/Write
default
2:05 AM
28-Feb-20

7. A Program to determine the youngest age:-

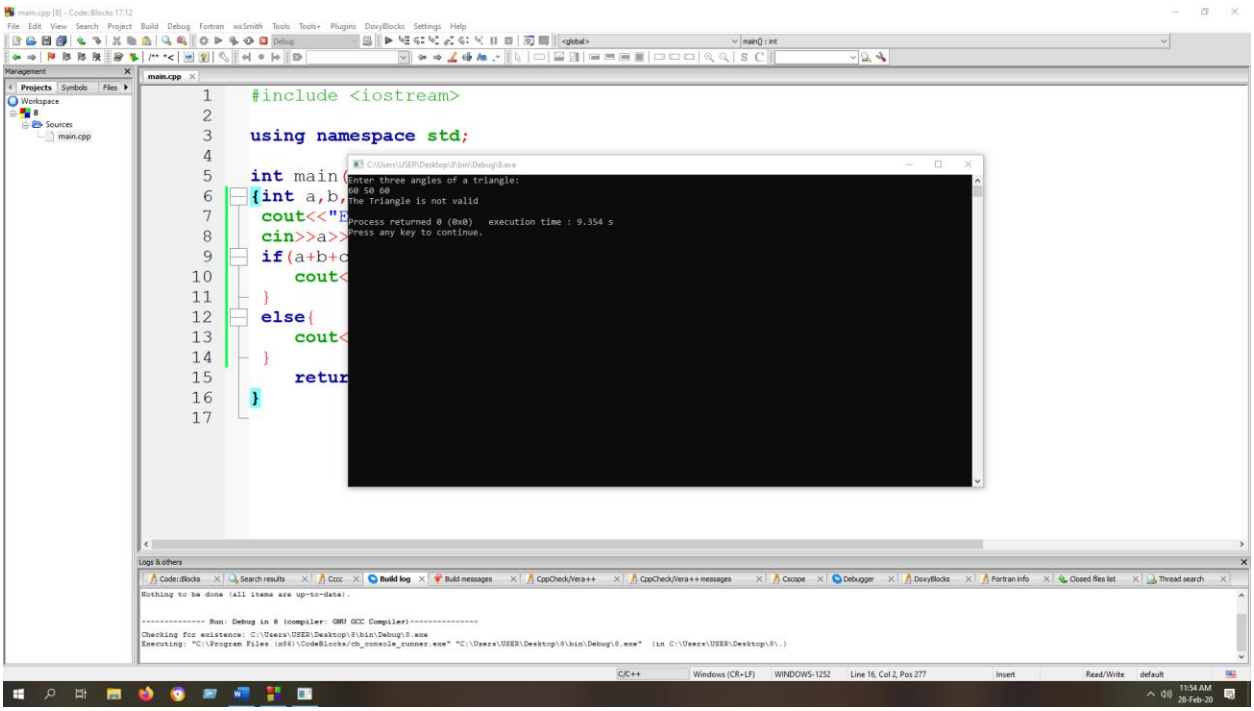
```
#include <iostream>
using namespace std;
int main()
{
  int a;
  int b;
  int c;
  cout<<"Age of Karim"<<endl;
  cin>>a;
  cout<<"Age of Rahim"<<endl;
  cin>>b;
  cout<<"Age of Jobber"<<endl;
  cin>>c;
  if(a<b&&a<c){
   cout<<"Karim is younger"<<endl;
  }
  else if(b<a&&b<c){
   cout<<"Rahim is younger"<<endl;
  }
  else{
   cout<<"Jobber is younger"<<endl;
```

```
    }
    return 0;
}
```


#include <iostream>
using namespace std;
int main()
{
int a;
int b;
int c;
cout<<"Ag
cin>>a;
cout<<"Ag
cin>>b;
cout<<"Ag
cin>>c;
if(a<b&&a
cout<<"K
else if(b
cout<<"R
else{
cout<<"J
return 0
}
Age of Karim
12
Age of Rahim
10
Age of Jobber
20
Rahim is younger
Process returned 0 (0x0) execution time : 12.602 s
Press any key to continue.

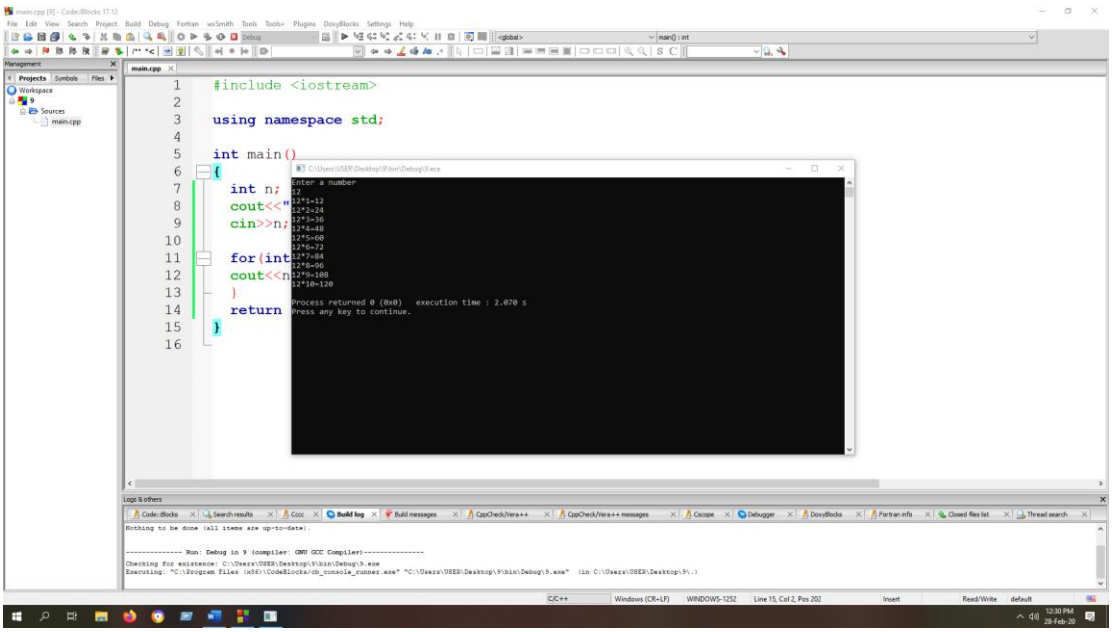
8. A Program to check whether a triangle is valid or not:-

```
#include <iostream>
using namespace std;
int main()
{int a,b,c;
 cout<<"Enter three angles of a triangle:"<<endl;
 cin>>a>>b>>c;
 if(a+b+c==180){
   cout<<"The Triangle is valid"<<endl;
 }
 else{
   cout<<"The Triangle is not valid"<<endl;
 }
   return 0;
}
```


#include <iostream>
using namespace std;
int main
{int a,b,
cout<<"E
cin>>a>>
if(a+b+c
cout<
}
else{
cout<
}
retur
}
Enter three angles of a triangle:
60 50 60
The Triangle is not valid
Process returned 0 (0x0) execution time : 9.354 s
Press any key to continue.
Nothing to be done (all items are up-to-date).
---------- Run: Debug in 8 (compiler: GNU GCC Compiler)----------
Checking for existence: C:\Users\USER\Desktop\8\bin\Debug\8.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\Users\USER\Desktop\8\bin\Debug\8.exe" (in C:\Users\USER\Desktop\8\.)

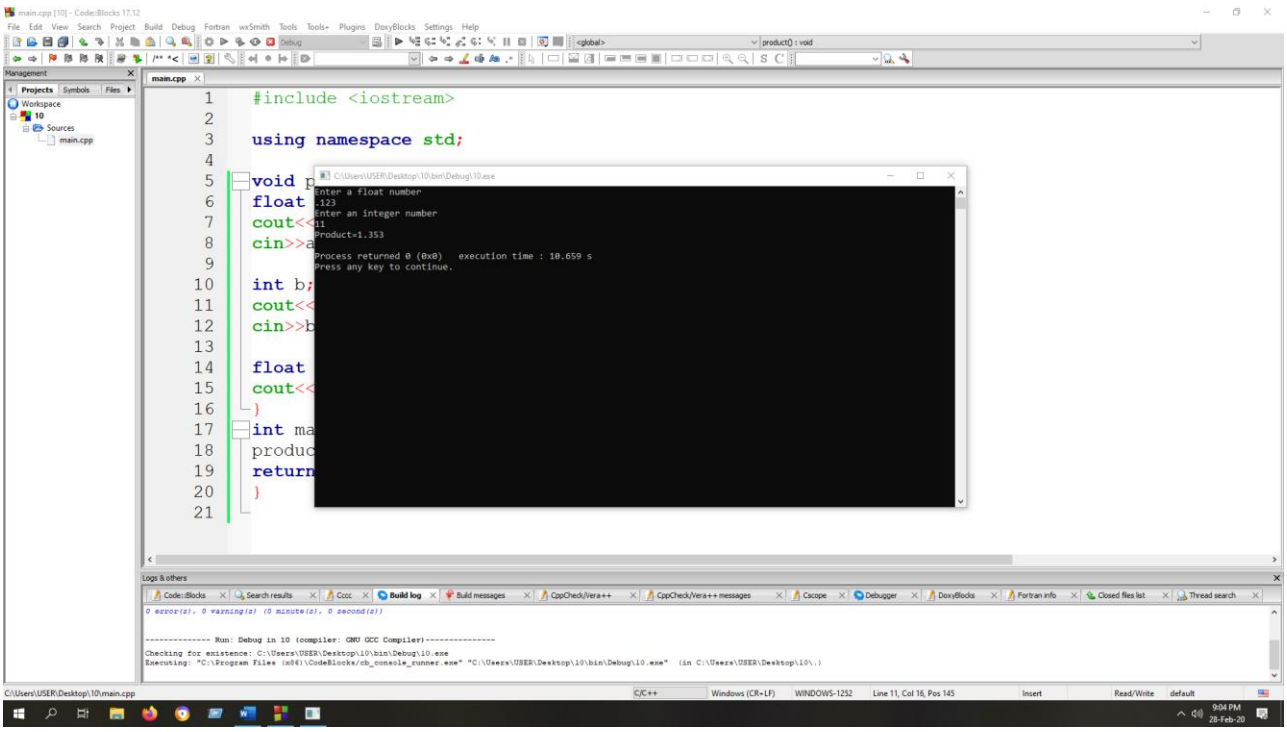
9. A Program to print the multiplication table:-

```
#include <iostream>
using namespace std;
int main()
{
  int n;
  cout<<"Enter a number"<<endl;
  cin>>n;

  for(int a=1; a<=10; a++){
  cout<<n<<"*"<<a<<"="<<n*a<<endl;
  }
  return 0;
}
```



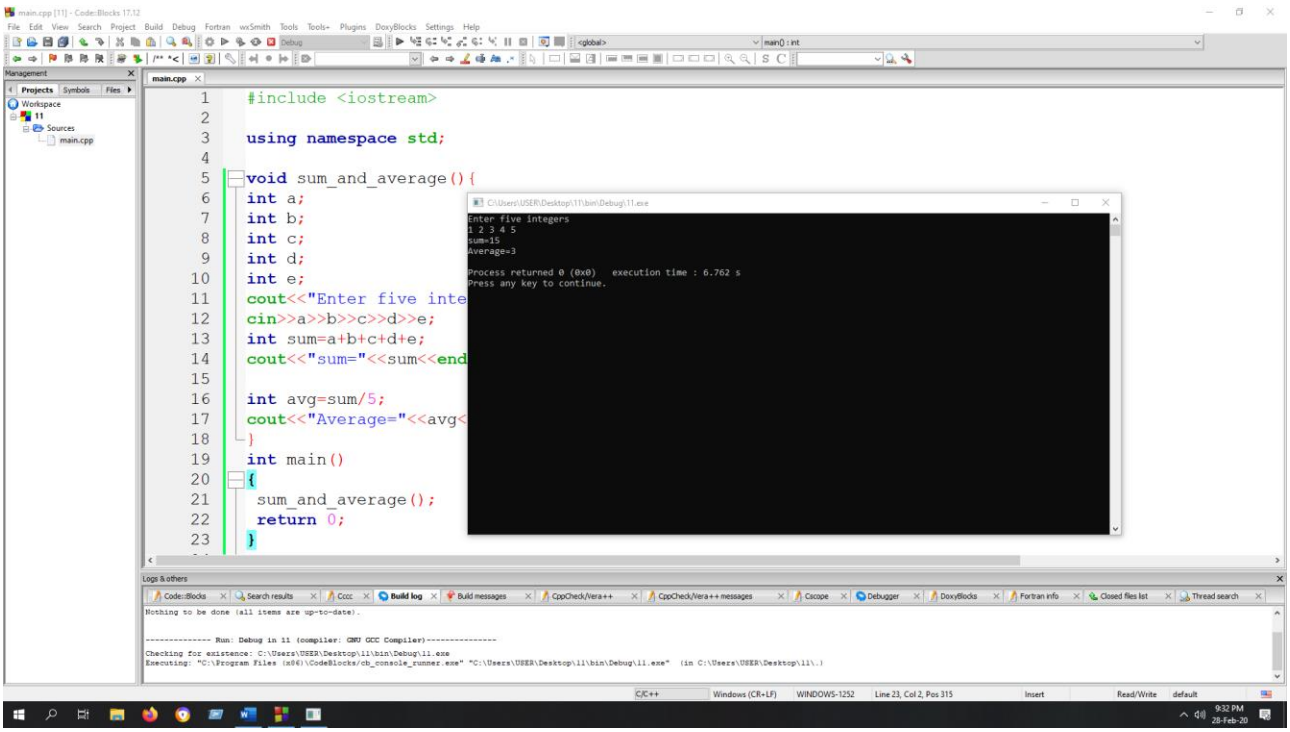
10.A Function which receives a float and an int from main() :-

```
#include <iostream>

using namespace std;

void product(){
float a;
cout<<"Enter a float number"<<endl;
cin>>a;

int b;
cout<<"Enter an integer number"<<endl;
cin>>b;

float product=a*b;
cout<<"Product="<<product<<endl;
}
int main(){
product();
return 0;
}
```


#include <iostream>
using namespace std;
Enter a float number
.123
Enter an integer number
11
Product=1.353
Process returned 0 (0x0) execution time : 10.659 s
Press any key to continue.

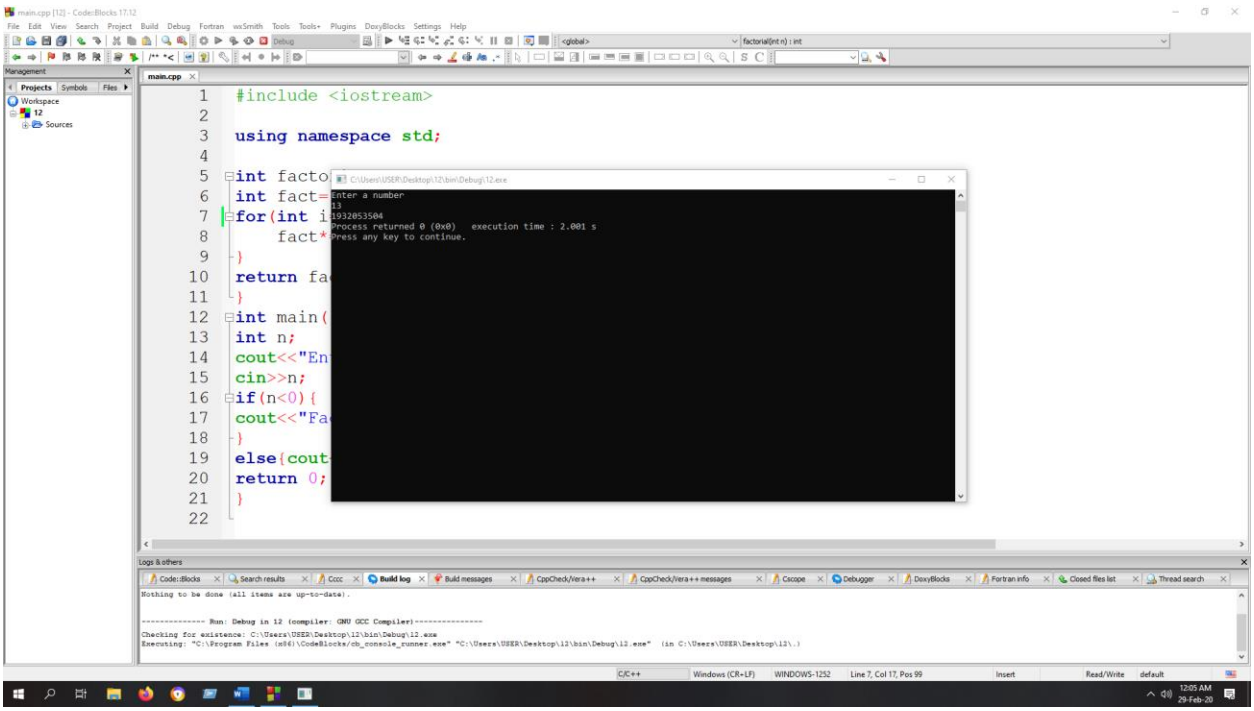
11.A Function that receives 5 integers and returns the sum,average:-

```
#include <iostream>
using namespace std;
void sum_and_average(){
int a;
int b;
int c;
int d;
int e;
cout<<"Enter five integers"<<endl;
cin>>a>>b>>c>>d>>e;
int sum=a+b+c+d+e;
cout<<"sum="<<sum<<endl;
int avg=sum/5;
cout<<"Average="<<avg<<endl;
}
int main()
{
 sum_and_average();
 return 0;
}
```


#include <iostream>
using namespace std;
void sum_and_average(){
int a;
int b;
int c;
int d;
int e;
cout<<"Enter five inte
cin>>a>>b>>c>>d>>e;
int sum=a+b+c+d+e;
cout<<"sum="<<sum<<end
int avg=sum/5;
cout<<"Average="<<avg<
}
int main()
{
sum_and_average();
return 0;
}
Enter five integers
1 2 3 4 5
sum=15
Average=3
Process returned 0 (0x0) execution time : 6.762 s
Press any key to continue.

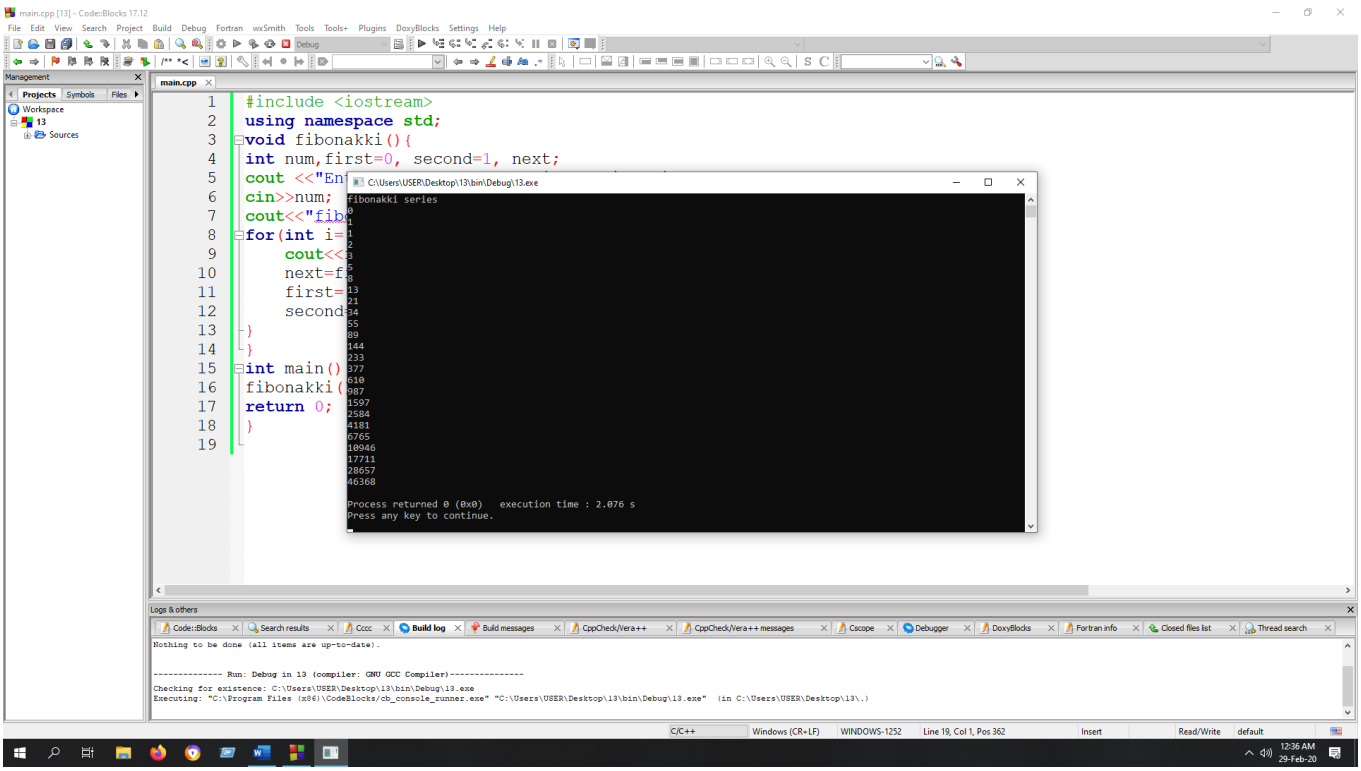
12.A Function to calculate the factorial value of any integer:-

```
#include <iostream>
using namespace std;
int factorial(int n){
int fact=1;
for(int i=1; i<=n; ++i){
   fact*=i;
}
return fact;
}
int main(){
int n;
cout<<"Enter a number"<<endl;
cin>>n;
if(n<0){
cout<<"Factorial of a negative number doesn't exist"<<endl;
}
else{cout<<factorial(n);}
return 0;
}
```


main.cpp [12] - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Management
Projects Symbols Files
Workspace
12
Sources
main.cpp
#include <iostream>
using namespace std;
int facto
int fact=
for(int i
fact*
}
return fa
}
int main(
int n;
cout<<"En
cin>>n;
if(n<0){
cout<<"Fa
}
else{cout
return 0;
}
C:\Users\USER\Desktop\12\bin\Debug\12.exe
Enter a number
13
1932053504
Process returned 0 (0x0) execution time : 2.001 s
Press any key to continue.
Logs & others
Code::Blocks
Search results
Cccc
Build log
Build messages
CppCheck/Vera++
CppCheck/Vera++ messages
Cscope
Debugger
DoxyBlocks
Fortran info
Closed files list
Thread search
Nothing to be done (all items are up-to-date).
---------- Run: Debug in 12 (compiler: GNU GCC Compiler)----------
Checking for existence: C:\Users\USER\Desktop\12\bin\Debug\12.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\Users\USER\Desktop\12\bin\Debug\12.exe" (in C:\Users\USER\Desktop\12\.)
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 7, Col 17, Pos 99
Insert
Read/Write
default
12:05 AM
29-Feb-20

13. A Function to obtain the first 25 numbers of a Fibonakki sequence:-

```
#include <iostream>
using namespace std;
void fibonakki(){
int num,first=0, second=1, next;
cout <<"Enter the number for fibonakki series >>"<<endl;
cin>>num;
cout<<"fibonakki series"<<endl;
for(int i= 0; i<num; i++){
   cout<<first<<endl;
   next=first + second;
   first= second;
   second= next;
}
}
int main(){
fibonakki();
return 0;
}
```


main.cpp [13] - Code::Blocks 17.12
#include <iostream>
using namespace std;
void fibonakki(){
int num,first=0, second=1, next;
cout <<"En
cin>>num;
cout<<"fib
for(int i=
cout<<
next=f
first=
second
}
}
int main()
fibonakki(
return 0;
}
C:\Users\USER\Desktop\13\bin\Debug\13.exe
fibonakki series
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584
4181
6765
10946
17711
28657
46368
Process returned 0 (0x0) execution time : 2.076 s
Press any key to continue.
Nothing to be done (all items are up-to-date).
---------- Run: Debug in 13 (compiler: GNU GCC Compiler)----------
Checking for existence: C:\Users\USER\Desktop\13\bin\Debug\13.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\Users\USER\Desktop\13\bin\Debug\13.exe" (in C:\Users\USER\Desktop\13\.)

14. A Program that calculates the sum of the odd and even components of an array also calculate the average of odd and even components:-

```
#include <iostream>
using namespace std;
int main()
{
 int num[5]={1,2,3,4,5};
 int evenSum=0;
 int oddSum=0;
 int numOfeven=0;
 int numOfodd=0;
 for(int i=0;i<=4;i++)
 {
    if(num[i]%2==0)
    {
       evenSum=evenSum+num[i];
       numOfeven ++;
    }
    else
    {
       oddSum=oddSum+num[i];
```

```
        numOfodd ++;
    }
}
cout<<"Sum of the even integers"<<evenSum<<endl;
cout<<"Sum of the odd integers"<<oddSum<<endl;
float evenAvg=(float)evenSum/numOfeven;
float oddAvg=(float)oddSum/numOfodd;
cout<<"Average of even:"<<evenAvg<<endl;
cout<<"Average of odd:"<<oddAvg<<endl;
return 0;
}
```