MANUAL 6

NATIONAL UNIVERSITY OF SCIENCE & TECNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING

[FUNDAMENTALS OF PROGRAMMING –(LAB)]

MANUAL # 6

SEMESTER # 01

CLASS: - ME-15 [SEC A]

NAME: TALHA MATEEN

ROLL NO.: 454713

SUBMITTED TO: M. AFFAN TARIQ

MANUAL 6

Lab Task number 1

```
// Generating the Fibonacci sequence using nested loops ||
#include <iostream>
using namespace std;
int main() {
//declaring rows, number 1, number 2 and sum of numbers ::
int r,num1, num2, sum=0;
//Taking number of rows from user ::
cout<<"Please enter number of rows  : ";
cin>>r;

// outer loop for number of rows ::
 for(int i=0; i<r; i++){
 num1=0;              //__Taking number1 =0 __
 num2=1;              //__Taking number2 =1 __

 for(int j=0;j<=i;j++)    // innner loop for Fibonacci sequence ::
 {
   cout<<" "<<num1<<" ";
   sum=num1+num2;
   num1=num2;          // __ declaring num2 as num1 __
   num2=sum;          // __ declaring sum as num2 __
 }
 cout<<endl;
 }
 return 0;
 }
```

```
Please enter number of rows  : 9
 0
 0  1
 0  1  1
 0  1  1  2
 0  1  1  2  3
 0  1  1  2  3  5
 0  1  1  2  3  5  8
 0  1  1  2  3  5  8  13
 0  1  1  2  3  5  8  13  21
```

```
Please enter number of rows  : 21
 0
 0  1
 0  1  1
 0  1  1  2
 0  1  1  2  3
 0  1  1  2  3  5
 0  1  1  2  3  5  8
 0  1  1  2  3  5  8  13
 0  1  1  2  3  5  8  13  21
 0  1  1  2  3  5  8  13  21  34
 0  1  1  2  3  5  8  13  21  34  55
 0  1  1  2  3  5  8  13  21  34  55  89
 0  1  1  2  3  5  8  13  21  34  55  89  144
 0  1  1  2  3  5  8  13  21  34  55  89  144  233
 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377
 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377  610
 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377  610  987
 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377  610  987  1597
 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377  610  987  1597  2584
 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377  610  987  1597  2584  4181
 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377  610  987  1597  2584  4181  6765
```

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Lab Task number 2

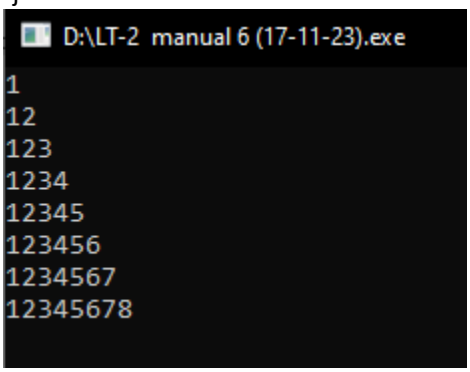
```
// program for floyd's triangle
#include <iostream>
using namespace std;
int main() {
// __Taking 5 rows in outer loop __
 for (int i=1;i<=4;i++){

   // __inner loop for columns__
   for(int j=1;j<=i;j++)
   {
   cout<<j;   // __declaring space in integers __

   }
 cout<<endl;       // __declaring new line__s

 }

 return 0;
 }
```



MANUAL 6

Home Task number 1

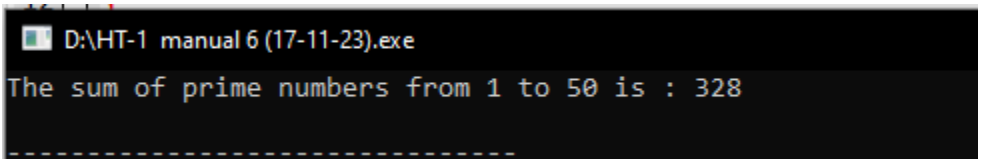
```
// __program to display sum of prime numbers from 1-50__
#include <iostream>
using namespace std;

int main()
{
// __initialize sum to zero__
int sum=0;

// __loop from 2 to 50__
for (int i=2; i<=50; i++)
{
bool prime=true;

for (int j=2; j<i; j++)
{
  if (i%j==0)          // __if i is divisible by j__
{
  prime=false;       // __if i is not prime__
  break;             // __exiting the inner loop__
}
}
  if (prime)         // __if i is prime__
{
  sum += i;           // __add i to sum__
}

}
cout << "The sum of prime numbers from 1 to 50 is : " << sum << endl; // __displaying the sum__
return 0;
}
```



MANUAL 6

Home Task number 2

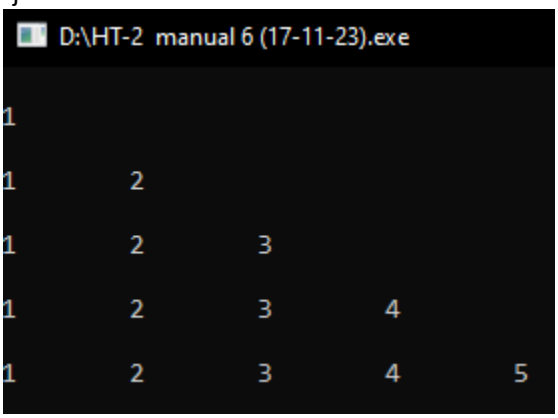
```
// program for floyd's triangle
#include <iostream>
using namespace std;
int main() {
// __Taking 5 rows in outer loop __
 for (int i=1;i<=5;i++){

   // __inner loop for columns__
   for(int j=1;j<=i;j++)
   {
   cout<<j<<"\t";   // __declaring space in integers __

   }
 cout<<endl;       // __declaring new line__s

 }

 return 0;
 }
```



MANUAL 6

Home Task number 3

```
// program for floyd's triangle
#include <iostream>
using namespace std;
int main() {

cout<<1<<endl;
for(int i=1; i<=7; i++){
        for(int j=1; j<=i; j++){
                if(i%2==0){       cout<<i<<"\t";}
}
  cout<<endl;
}
 return 0;
}
```