

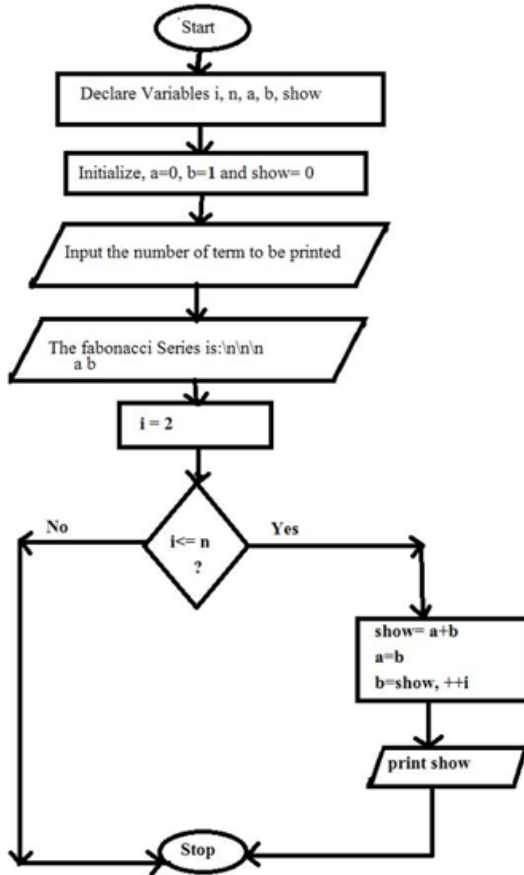
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CLASS/GROUP-26 (B)
SEMESTER- 2ND
SUB= OBJECT ORIENTED PROGRAMING WITH C
UID- 20BCS2761
DATE – 21/02/2021

EXPERIMENT NUMBER –Practical 1.1

TOPIC OF EXPERIMENT – WAP to generate the Fibonacci series up to user specified limit. Write all the missing terms (e.g. 4, 6, 7, 9, 10, 11, 12, 14, 15...) also at the end.

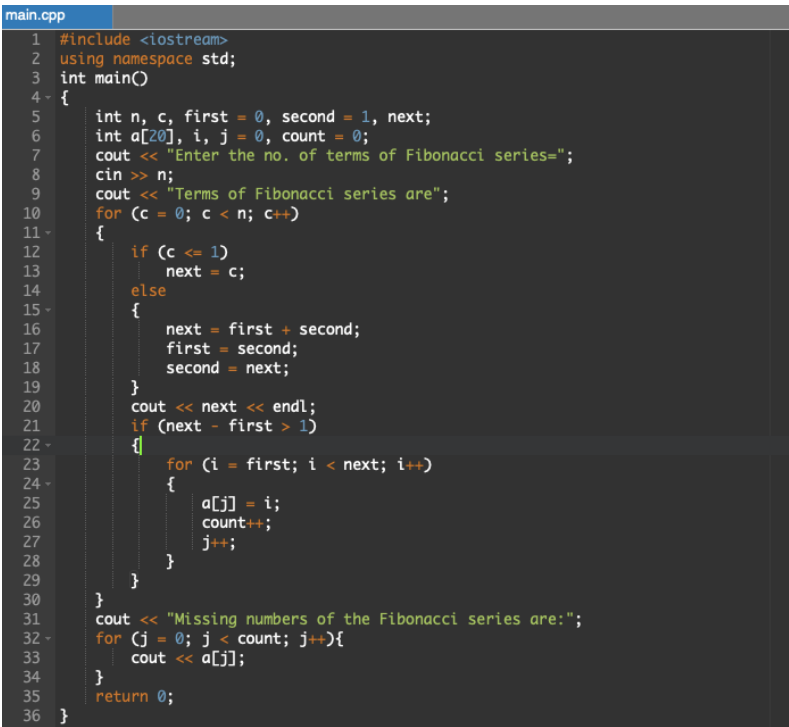
AIM OF THE EXPERIMENT – WAP to generate the Fibonacci series up to user specified limit.

FLOWCHART/ ALGORITHM



PROGRAM CODE

```
#include <iostream>
using namespace std;
int main()
{
    int n, c, first = 0, second = 1, next;
    int a[20], i, j = 0, count = 0;
    cout << "Enter the no. of terms of Fibonacci series=";
    cin >> n;
    cout << "Terms of Fibonacci series are";
    for (c = 0; c < n; c++)
    {
        if (c <= 1)
            next = c;
        else
        {
            next = first + second;
            first = second;
            second = next;
        }
        cout << next << endl;
        if (next - first > 1)
        {
            for (i = first; i < next; i++)
            {
                a[j] = i;
                count++;
                j++;
            }
        }
    }
    cout << "Missing numbers of the Fibonacci series are:";
    for (j = 0; j < count; j++){
        cout << a[j];
    }
    return 0;
}
```



```
main.cpp
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     int n, c, first = 0, second = 1, next;
6     int a[20], i, j = 0, count = 0;
7     cout << "Enter the no. of terms of Fibonacci series=";
8     cin >> n;
9     cout << "Terms of Fibonacci series are";
10    for (c = 0; c < n; c++)
11    {
12        if (c <= 1)
13            next = c;
14        else
15        {
16            next = first + second;
17            first = second;
18            second = next;
19        }
20        cout << next << endl;
21        if (next - first > 1)
22        {
23            for (i = first; i < next; i++)
24            {
25                a[j] = i;
26                count++;
27                j++;
28            }
29        }
30    }
31    cout << "Missing numbers of the Fibonacci series are:";
32    for (j = 0; j < count; j++){
33        cout << a[j];
34    }
35    return 0;
36 }
```

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

(Kindly Not down the compile time errors encountered)

IF WE FORGET SEMICOLON-

```
Compilation failed due to following error(s).

main.cpp: In function 'int main()':
main.cpp:14:9: error: expected ';' before 'else'
    else
    ^~~~
```

OUTPUT PROGRAM

```
input
Enter the no. of terms of Fibonacci series=4, 6, 7, 9, 10, 11, 12, 14, 15
Terms of Fibonacci series are0
1
1
2
Missing numbers of the Fibonacci series are:
...Program finished with exit code 0
Press ENTER to exit console.
```

SECOND EXPERIMENT

TOPIC OF EXPERIMENT - Write a program in C++ to find Size of fundamental data types.

Find Size of fundamental data types:-

The sizeof(char) is : 1 bytes

The sizeof(short) is : 2 bytes

The sizeof(int) is : 4 bytes

The sizeof(long) is : 8 bytes

The sizeof(long long) is : 8 bytes

The sizeof(float) is : 4 bytes

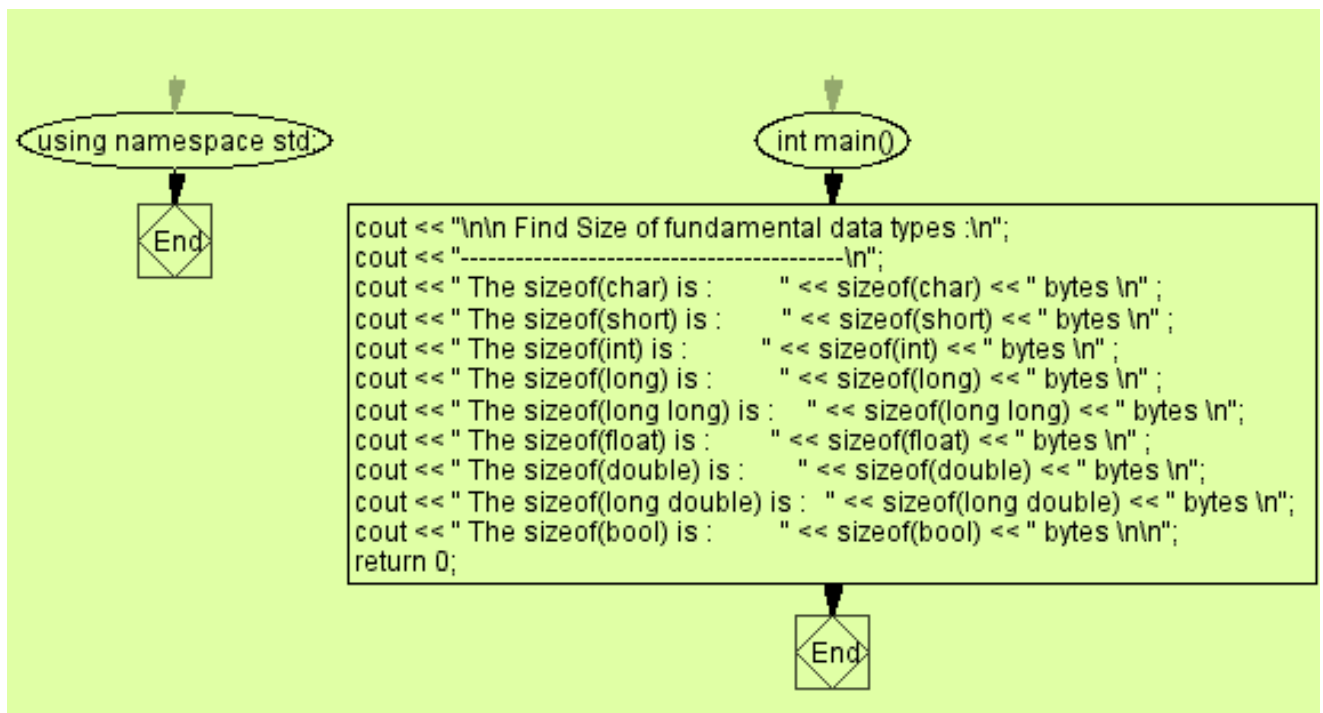
The sizeof(double) is : 8 bytes

The sizeof(long double) is : 16 bytes

The sizeof(bool) is : 1 bytes

AIM OF THE EXPERIMENT — Write a program in C++ to find Size of fundamental data types.

FLOWCHART/ ALGORITHM—



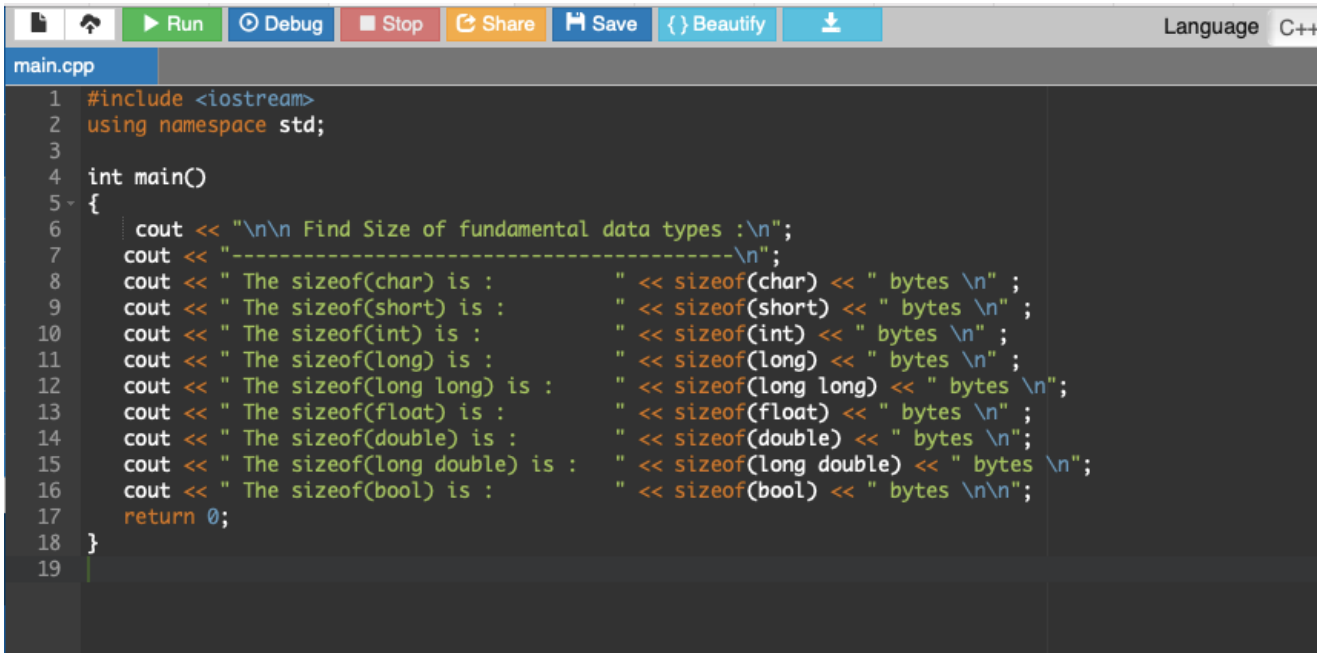
PROGRAM CODE-

```
#include <iostream>

using namespace std;

int main()
{
    cout << "\n\n Find Size of fundamental data types :\n";
    cout << "-----\n";
    cout << " The sizeof(char) is :          " << sizeof(char) << " bytes\n" ;
    cout << " The sizeof(short) is :          " << sizeof(short) << " bytes\n" ;
    cout << " The sizeof(int) is :          " << sizeof(int) << " bytes\n" ;
    cout << " The sizeof(long) is :          " << sizeof(long) << " bytes\n" ;
    cout << " The sizeof(long long) is :      " << sizeof(long long) << " bytes\n" ;
    cout << " The sizeof(float) is :          " << sizeof(float) << " bytes\n" ;
    cout << " The sizeof(double) is :         " << sizeof(double) << " bytes\n" ;
    cout << " The sizeof(long double) is :    " << sizeof(long double) << " bytes\n" ;
    cout << " The sizeof(bool) is :          " << sizeof(bool) << " bytes\n\n" ;
    return 0;
}
```

INPUT—

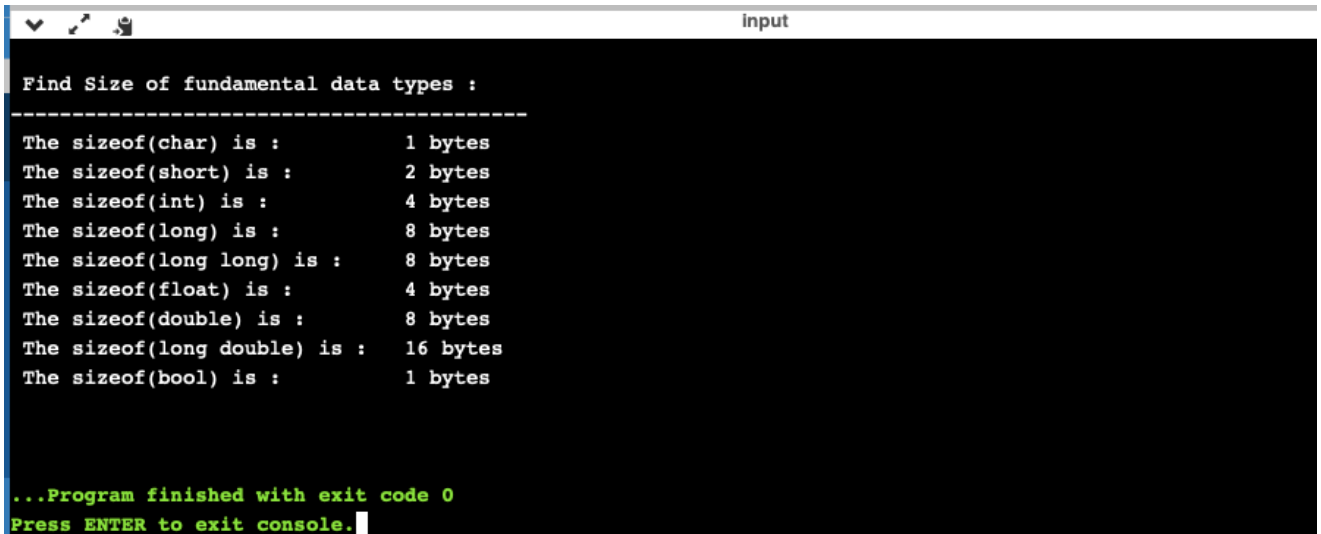


```

1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout << "\n\n Find Size of fundamental data types :\n";
7     cout << "-----\n";
8     cout << " The sizeof(char) is :          " << sizeof(char) << " bytes \n" ;
9     cout << " The sizeof(short) is :         " << sizeof(short) << " bytes \n" ;
10    cout << " The sizeof(int) is :           " << sizeof(int) << " bytes \n" ;
11    cout << " The sizeof(long) is :            " << sizeof(long) << " bytes \n" ;
12    cout << " The sizeof(long long) is :       " << sizeof(long long) << " bytes \n";
13    cout << " The sizeof(float) is :          " << sizeof(float) << " bytes \n" ;
14    cout << " The sizeof(double) is :         " << sizeof(double) << " bytes \n";
15    cout << " The sizeof(long double) is :    " << sizeof(long double) << " bytes \n";
16    cout << " The sizeof(bool) is :          " << sizeof(bool) << " bytes \n\n";
17    return 0;
18 }
19

```

OUTPUT-



```

Find Size of fundamental data types :
-----
The sizeof(char) is :          1 bytes
The sizeof(short) is :         2 bytes
The sizeof(int) is :           4 bytes
The sizeof(long) is :            8 bytes
The sizeof(long long) is :       8 bytes
The sizeof(float) is :          4 bytes
The sizeof(double) is :         8 bytes
The sizeof(long double) is :    16 bytes
The sizeof(bool) is :          1 bytes

...Program finished with exit code 0
Press ENTER to exit console.

```

LEARNING OUTCOMES

- Identify situations where computational methods would be useful.
- Approach the programming tasks using techniques learnt and write pseudo-code.
- Choose the right data representation formats based on the requirements of the problem.
- Use the comparisons and limitations of the various programming constructs and choose the right one for the task.

EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet Completion including writing learning objective/ Outcome	10	
2.	Post Lab Quiz Result	5	
3.	Student engagement in Simulation/ Performance/ Pre Lab Questions	5	
4.	Total Marks	20	



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