**C/C++ Tricky Programs**

* Difficulty Level : [Medium](https://www.geeksforgeeks.org/medium/)
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We may come across various tricky programs in our day to day life. Maybe in technical interviews, coding tests, or in C/C++ classrooms.

Here is a list of such programs:-

* Print text within double quotes (” “).   
  This may seem easy but beginners may get puzzled while printing text within double-quotes.
* C++

|  |
| --- |
| // CPP program to print double quotes  #include<iostream>    int main()  {     std::cout << "\"geeksforgeeks\"";     return 0;  } |

**Output:**

"geeksforgeeks"

* To check if two numbers are equal without using arithmetic operators or comparison operators.   
  The simplest solution for this is using Bitwise XOR operator (^). We know that, for two equal numbers XOR operator returns 0. We will use this trick to solve this problem.
* C++
* C

|  |
| --- |
| // C++ program to check if two numbers are equal  // without using arithmetic operators or  // comparison operators  #include <iostream>  using namespace std;    int main()  {     int x = 10;     int y = 10;       if (!(x ^ y))        cout << " x is equal to y ";     else        cout << " x is not equal to y ";       return 0;  }    // This code is contributed by shivani |

**Output:**

x is equal to y

* Print all natural numbers upto N without using semi-colon.   
  We use the idea of recursively calling main function.
* C++

|  |
| --- |
| // C++ program to print all natural numbers upto  // N without using semi-colon  #include<iostream>    using namespace std;  int N = 10;    int main()  {    static int x = 1;    if (cout << x << " " && x++ < N && main())    { }    return 0;  } |

**Output**:

1 2 3 4 5 6 7 8 9 10

* To Swap the values of two variables without using any extra variable.
* C++

|  |
| --- |
| // C++ program to check if two numbers are equal  #include<iostream>    int main()  {     int x = 10;     int y = 70;       x = x + y;     y = x - y;     x = x - y;       cout << "X : " << x << "\n";     cout << "Y : " << y << "\n";       return 0;  } |

**Output:**

X : 70

Y : 10

* Program to find Maximum and minimum of two numbers without using any loop or condition.   
  The simplest trick is-
* C++

|  |
| --- |
| // CPP program to find maximum and minimum of  // two numbers without using loop and any  // condition.  #include<bits/stdc++.h>    int main ()  {     int a = 15, b = 20;     printf("max = %d\n", ((a + b) + abs(a - b)) / 2);     printf("min = %d", ((a + b) - abs(a - b)) / 2);     return 0;  } |

**Output:**

max = 20

min = 15

* Print the maximum value of an unsigned int using One’s Complement (~) Operator in C.   
  Here is a trick to find the maximum value of an unsigned int using one’s complement operator:
* C

|  |
| --- |
| // C program to print maximum value of  // unsigned int.  #include<stdio.h>    int main()  {     unsigned int max;     max = 0;     max = ~max;     printf("Max value : %u ",  max);    return 0;  } |

* To find sum of two integers without using ‘+’ operator.   
  This is a very easy mathematics trick.   
  We know that a + b = – (-a-b). So this will work as a trick for us.
* C++

|  |
| --- |
| // CPP program to print sum of two integers  // withtout +  #include<iostream>    using namespace std;  int main()  {    int a = 5;    int b = 5;    int sum = -( -a-b );    cout << sum;    return 0;  } |

**Output:**

10

* Program to verifies the condition inside if block.
* C++

|  |
| --- |
| // CPP program to verifies the condition inside if block  // It just verifies the condition inside if block,  // i.e., cout << "geeks" which returns a non-zero value,  // !(non-zero value) is false, hence it executes else  // Hence technically it only executes else block  #include<iostream>    using namespace std;  int main()  {      if (!(cout << "geeks"))      cout <<" geeks ";      else      cout << "forgeeks ";        return 0;  } |

**Output:**

geeksforgeeks

* Program to divide an integer by 4 without using ‘/’ operator.   
  One of the most efficient way to divide an integer by 4 is to use right shift operator (“>>”).
* C++

|  |
| --- |
| // CPP program to divide a number by 4  // without using '/'  #include<iostream>    using namespace std;  int main()  {     int n = 4;     n = n >> 2;     cout << n;     return 0;  } |

**Output:**

1

* Program to check endianness of the computer.
* C

|  |
| --- |
| // C program to find if machine is little  // endian or big endian.  #include <stdio.h>    int main()  {     unsigned int n = 1;     char \*c = (char\*)&n;     if (\*c)         printf("LITTLE ENDIAN");     else         printf("BIG ENDIAN");     return 0;  }  **Program to print hello without using semicolumn**  void main()  {  switch(printf(“Hello “))  {  }  }  **Program to add two numbers without using arithmetic operator**  #include<iostream.h> // Header file  {  int a=3,b=5;  While(b–)  a++;  cout<<” Sum of two numbers is”<<a;  } |

## 8. To check if the given number is even without using arithmetic or relational operators.

To check if the given number is even or not, we can use bitwise operators. The bitwise & operator along with **0x01** will check for the bit at the 0th position in the number. If the bit at 0th position is 1 then the number is odd otherwise it is even.

#### Example

#include<iostream>

using namespace std;

int main(){

   int a = 154;

   if(a & 0x01) {

      cout<<a<<" is an odd number";

   } else{

      cout<<a<<" is an even number";

   }

   printf("\n");

   return 0;}

## Program to find the maximum and minimum of the two numbers without using the comparison operator.

To find the maximum and a minimum number of the two numbers that are defined without using a comparison operator we will make use of the abs method, and passing the difference of the two numbers to it. It will return the positive difference between the numbers and we will and subtract this absolute difference to find the max and min of the two given numbers.

#### Example

#include<iostream>

using namespace std;

int main (){

   int x = 15, y = 20;

   cout<<"The numbers are x = "<<x<<"and y = "<<y<<endl;

   cout<<"The max of the numbers is "<<((x + y) + abs(x - y)) / 2<<endl;

   cout<<"The min of the numbers is "<<((x + y) - abs(x - y)) / 2<<endl;

   return 0;

}

#### Output

The numbers are x = 15and y = 20

The max of the numbers is 20

The min of the numbers is 15

## Program to print “ ” in C++

In C++ programming language, we use quotes to denote the start and end of the text is to be printed. So, printing quotes “ needs a special escape sequence. So, we will use the \” to print quotes in c++.

#### Example

#include<iostream>

using namespace std;

int main() {

   cout<<"\"Tutorials Point \"";

   return 0;

}

#### Output

"Tutorials Point "