

DSA Projects : Guessing Number in Your Mind

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The provided C++ code is a simple console-based program that implements a kind of magic trick where the computer attempts to read the user's mind. Let's break down the code with explanations for each section:

1. Header includes:

```
#include <iostream>
#include <cstdlib>
#include <ctime>
#include <conio.h>
```

These are header includes for standard input/output, random number generation, time functions, and console input/output.

2. Function to Get Random Multiple of Two:

```
int getRandomMultipleOfTwo(int lowerLimit, int upperLimit) {
    srand(static_cast<unsigned int>(time(NULL)));

    int randomNum = lowerLimit + rand() % (upperLimit - lowerLimit + 1);
    int multipleOfTwo = randomNum + (randomNum % 2 == 0 ? 0 : 1);

    return multipleOfTwo;
}
```

This function generates a random number within the specified range ('lowerLimit' to 'upperLimit') and ensures it is a multiple of two.

3. Main Function:

```
int main() {
    // Get a random number to use in the magic trick
    int result = getRandomMultipleOfTwo(2, 100);

    cout << "\nWelcome to Programmer Magic With Onkar!!!";
    cout << "\nTo Start Magic Press 1:";

    int p;
    cin >> p;
```

```

    if (p == 1) {
        while (p == 1) {
            // Code for the mind-reading magic trick
            // ...
        }
    }

    return 0;
}

```

- It starts by welcoming the user and asking them to press 1 to start the magic trick.

- If the user presses 1, it enters a loop for the mind-reading game.
- The `result` variable holds a random number generated for the trick.

4. Mind-Reading Game Loop:

```

while (p == 1) {
    string str;

    // Code for the mind-reading magic trick
    // ...
}

```

Inside the loop, the program interacts with the user and attempts to read their mind through a series of instructions.

5. User Interaction and Magic Trick Steps:

```

cout << "\nWelcome to Onkar's mind reading World:";
getch();
cout << "\nPlease Enter your Name:";
cin >> str;
// ...

```

The program interacts with the user, takes their name, and guides them through steps of a magic trick.

6. Exiting or Restarting the Magic Trick:

```

cout << "\n" << str << " want to again Start Magic!!! Press 1 Otherwise\nCome Out Of Magic World!!!";
cin >> p;
result = getRandomMultipleOfTwo(2, 100);

```

After completing the magic trick, the user is asked if they want to start the magic again by pressing 1. If they choose to continue, a new random number is generated for the next round.

Overall, the code creates a simple interactive program with a mind-reading magic trick, engaging the user in a console-based game. The magic trick involves manipulating a random number and presenting steps to the user, creating an illusion of mind-reading.

Code:

```
#include <iostream>
#include <cstdlib>
#include <ctime>
#include <conio.h>

using namespace std;

int getRandomMultipleOfTwo(int lowerLimit, int upperLimit) {
    srand(static_cast<unsigned int>(time(NULL)));

    int randomNum = lowerLimit + rand() % (upperLimit - lowerLimit + 1);
    int multipleOfTwo = randomNum + (randomNum % 2 == 0 ? 0 : 1);

    return multipleOfTwo;
}

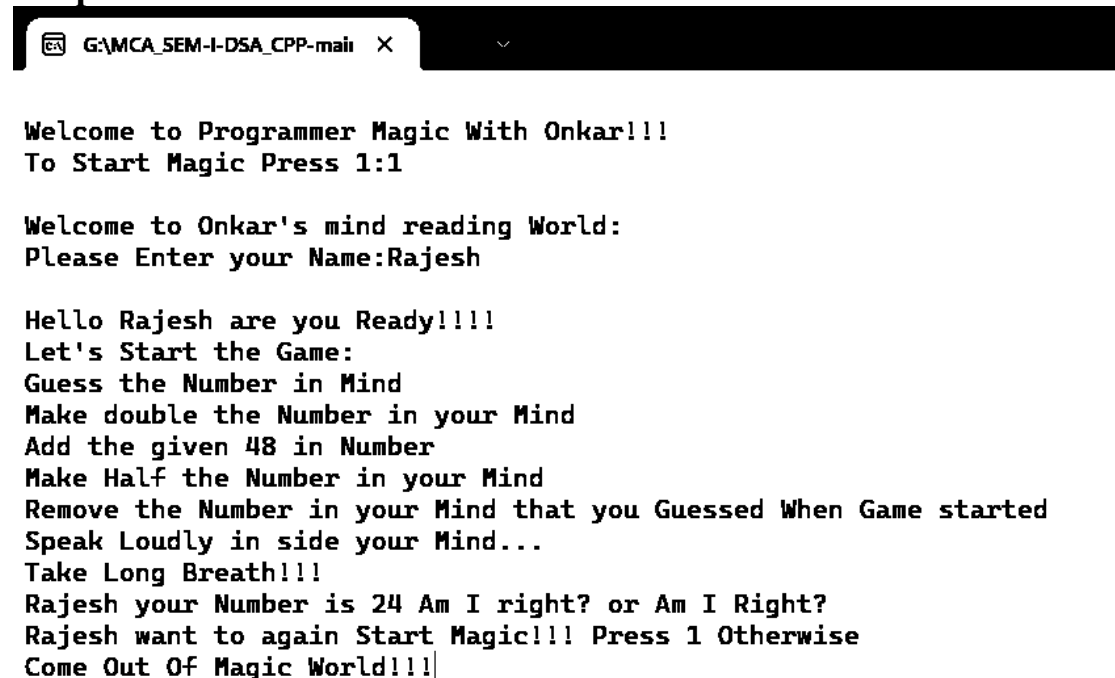
int main() {
    int result = getRandomMultipleOfTwo(2, 100);
    cout << "\nWelcome to Programmer Magic With Onkar!!!";
    cout << "\nTo Start Magic Press 1:";
    int p;
    cin >> p;
    if(p == 1){
        while(p == 1){
            string str;
            cout << "\nWelcome to Onkar's mind reading World:";
            getch();
            cout << "\nPlease Enter your Name:";
            cin >> str;
            getch();
            cout << "\nHello " <<str<<" are you Ready!!!!";
            getch();
            cout<<"\nLet's Start the Game: ";
            cout << "\nGuess the Number in Mind";
            getch();
```

```

        cout << "\nMake double the Number in your Mind";
        getch();
        cout << "\nAdd the given "<< result << " in Number";
        getch();
        cout << "\nMake Half the Number in your Mind";
        getch();
        cout << "\nRemove the Number in your Mind that you Gussed
When Game started";
        getch();
        cout << "\nSpeak Loudly in side your Mind...";
        getch();
        cout << "\nTake Long Breath!!!";
        getch();
        cout << "\n"<<str<<" your Number is " << (result/2) << " Am I
right? or Am I Right?";
        getch();
        cout << "\n"<<str<<" want to again Start Magic!!! Press 1
Otherwise \nCome Out Of Magic World!!!";
        cin>>p;
        result = getRandomMultipleOfTwo(2, 100);
    }
}
return 0;
}

```

Output:



```

Welcome to Programmer Magic With Onkar!!!
To Start Magic Press 1:1

Welcome to Onkar's mind reading World:
Please Enter your Name:Rajesh

Hello Rajesh are you Ready!!!!
Let's Start the Game:
Guess the Number in Mind
Make double the Number in your Mind
Add the given 48 in Number
Make Half the Number in your Mind
Remove the Number in your Mind that you Gussed When Game started
Speak Loudly in side your Mind...
Take Long Breath!!!
Rajesh your Number is 24 Am I right? or Am I Right?
Rajesh want to again Start Magic!!! Press 1 Otherwise
Come Out Of Magic World!!!!

```