**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.**

1. **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 Guessed 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:**

