st mary's university

Programming Group Assignment

Title: Casino Number Guessing Game

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Project Overview

The **Casino Number Guessing Game** is a fun, text-based C++ program that simulates a basic betting game. It allows a player to deposit money, place a bet, guess a number between 1 and 10, and win or lose based on whether their guess matches a randomly generated number.

The game is interactive, includes input validation to avoid crashes, and gives the player the choice to keep playing or quit after each round

Functionalities in the Program

Here's what the program can do:

Feature	Description
Deposit System	The player can deposit any amount to add money to their balance before starting the game.
Bet Placement	Players can place a bet using part of their current balance.
Number Guessing	The game asks the player to pick a number between 1 and 10.
Winning Logic	If the player's guess matches the lucky number, they win 3 times their bet.
Losing Logic	If the guess is incorrect, the player loses the money they bet.
Replay Option	After each round, the player can choose to play again or end the game.
Input Validation	If the user enters letters or invalid inputs instead of numbers, the game catches the error and asks again.
Loop + Goto Control	The game uses goto statements along with loops to control the flow smoothly and flexibly.

Key Code Snippets

1, Deposit Function with Input Validation

cpp
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```
void deposit() {
   cout << "Enter the amount you want to deposit: ";
   while (!(cin >> cash)) {
      cout << "Invalid input. Please enter a number: ";
      cin.clear();
      cin.ignore(numeric_limits<streamsize>::max(), '\n');
   }
   money += cash;
}
```

2, Bet Amount Validation

cpp
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```
while (!(cin >> amount)) {
   cout << "Invalid input, Please enter a number: ";
```

```
    cin.clear();
    cin.ignore(numeric_limits<streamsize>::max(), '\n');
}
```

3, Guessing the Number with Validation

```
cpp
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again:
cout << "let's start playing, Guess the number between 1 - 10: ";
while (!(cin >> num)) {
    cout << "Invalid input. Please enter a number: ";
    cin.clear();
    cin.ignore(numeric_limits<streamsize>::max(), '\n');
}
if (num > 10 || num < 1) {
    cout << "Please try again!!! The number must be 1 upto 10" << endl;
    goto again;
}
```

4, Random Number Generation and Result Logic

```
cpp
Copy code
dice = rand() % 10 + 1;
cout << "The lucky number is " << dice << endl;

if (num == dice) {
    amount *= 3;
    money += amount;
    cout << "CONGRATULATION\nYou have won: " << amount << "$" << endl;
} else {
    cout << "Better luck next time." << endl;
}
```

5, Replay Prompt

```
cpp
Copy code
back:
cout << "If you want to play again enter 'y' for yes or 'n' for no: ";
cin >> press;
switch (press) {
    case 'y':
    case 'Y': goto start;
    case 'n':
    case 'N': cout << "THANK YOU FOR PLAYING!!" << endl; break;
    default:
        cout << "Invalid choice! Enter 'y' or 'n'." << endl;
        goto back;
}
```