C++ Challenge Sheet #2

Needed Knowledge

1) Using the ctime and cstdlib
2) You should know to use if, else if and else statements
3) You should know how to nest these logic statements
4) You should know how to use a switch statements
5) Logic operators such as AND, NOT and OR.

Question

1) *Check Temperature*

   Write a program that prompt the user to enter a number for temperature. If temperature is less than 30, display “too cold”; If temperature is greater that 100, display “too hot”; otherwise, displays “just right”.

2) *Compute the perimeter of a triangle*

   Write a program that reads three edges for a triangle and computes the perimeter if the input is valid. Otherwise, display that the input is invalid. The input is valid if the sum of every pair of two edges is greater than the remaining edge.

3) *Lottery Game*

   Revise the program below to generate a lottery of a three-digit number. The program prompts the user to enter a three-digit number and determines whether the user wins according to the following rules:
   If the user input matches the lottery number in the exact order, the award is $10,000. If all the digits in the user input match all the digits in the lottery number, the award is $3000. If one digit in the user input matches a digit in the lottery number, the award is $1,000.

```
#include <iostream>
#include <ctime>
#include <cstdlib>
using namespace std;
int main()
{
// Generate a lottery
srand(time(0));
int lottery = rand() % 100;

// Prompt the user to enter a guess
cout << “enter your lottery pick (two digits): ”;
int guess;
cin >> guess;

// Get digits from lottery
int lotterydigit1 = lottery / 10;
int lotterydigit2 = lottery % 10;

// Get digits from guess
int guessdigit1 = guess / 10;
int guessdigit2 = guess % 10;

cout << “The lottery number is ” << lottery << endl;

// Check the guess
if (guess == lottery)
      cout << “Exact match: you win $10,000” << endl;
else if (guessdigit2 == lotterydigit1 && guessdigit1 == lotterydigit2)
```

```
      cout << “Match all digits: you win $3,000” << endl;
else if (guessdigit1 == lotterydigit1 || guessdigit1 == lotterydigit2
|| guessdigit2 == lotterydigit1 || guessdigit2 == lotterydigit2)
      cout << “Match one digit: you win $1,000” << endl;
else
      cout << “Sorry, no match” << endl;

return 0;
}
```