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CST-210

This is my own work

Code:

#include <cstdlib>

#include <iostream>

#include <vector>

using namespace std;

bool checkVal();

vector<int> getNumbers();

void setPowerball(vector<int> &numbers);

void showNumbers(vector<int> numbers);

int main()

{

// this makes so that every time I call rand, there are different numbers

srand(time(0));

// initialize variables

int times;

string ans;

do

{

// ask user for amount of numbers

cout << "How many lottery numbers would you like to see?" << endl;

cin >> times;

for (int i = 0; i < times; i++)

{

// call function to get numbers

vector<int> numbers = getNumbers();

// cal function to get powerball

setPowerball(numbers);

// show numbers

showNumbers(numbers);

}

cout << "Would you like to see new numbers? (y/n)" << endl;

cin >> ans;

} while (ans != "n");

}

void showNumbers(vector<int> numbers)

{

cout << "Your numbers are: ";

// loop through numbers printing out the results

for (int i = 0; i < 5; i++)

{

cout << numbers[i];

if (i < 4)

cout << "-";

}

// print out powerball

cout << " Powerball " << numbers[5];

cout << endl;

}

// checks if the number was already chosen

bool checkVal(vector<int> numbers, int size, int value)

{

// loop to compare value with all the other values in the vector

for (int i = 0; i < size; ++i)

{

if (numbers[i] == value)

{

return true;

}

}

return false;

}

// sets powerball by choosing a handom int between 1 and 26

void setPowerball(vector<int> &numbers)

{

for (int i = 5; i < 6; i++)

{

int last = rand() % 26 + 1;

if (checkVal(numbers, i, last))

{

i--;

}

else

{

numbers.push\_back(last);

}

}

}

vector<int> getNumbers()

{

vector<int> numbers;

for (int i = 0; i < 5; i++)

{

int num = rand() % 69 + 1;

// checks if this number is already in the vector

if (checkVal(numbers, i, num))

{

// if it is, it loops again to choose another number

i--;

}

else

{

// if not, the number is added to the vector

numbers.push\_back(num);

}

}

// sort numbers starting with the smallest value

sort(numbers.begin(), numbers.end());

// return 5 numbers

return numbers;

}