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| **Ch02-02.cpp：** *Send More Money* | |
| **Line#** | **Code** |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72  73  74  75 | // Ch02-02.cpp : Send More Money Puzzle game  #include <iostream>  using namespace std;  #define S Cs[0]  #define E Cs[1]  #define N Cs[2]  #define D Cs[3]  #define M Cs[4]  #define O Cs[5]  #define R Cs[6]  #define Y Cs[7]  #define NOI(\_arr) (sizeof(\_arr)/sizeof(\_arr[0]))  int Cs[8];  int NoOfAnswers = 0;  int NoOfPatterns = 0;  int Level = 0;  void ShowAnswer() {  cout << " "<<S<<E<<N<<D << endl;  cout << "+"<<M<<O<<R<<E << endl;  cout << M <<O<<N<<E<<Y << endl << endl;  }  bool IsAnswer() {  if (S == 0) return false;  if (M == 0) return false;  if (((D + E) % 10) != Y) return false;  int carry = (D + E) / 10;  if (((carry + N + R) % 10) != E) return false;  carry = (carry + N + R) / 10;  if (((carry + E + O) % 10) != N) return false;  carry = (carry + E + O) / 10;  if (((carry + S + M) % 10) != O) return false;  carry = (carry + S + M) / 10;  return (carry == M);  }  bool NotInUsed(int d) {  for (int i = 0; i < Level; i++)  if (Cs[i] == d) return false;  return true;  }  void Solve() {  if (Level < NOI(Cs)) {//Generate  for (int d = 0; d < 10; d++) {  if (NotInUsed(d)) {  Cs[Level] = d;  Level++;  Solve(); //Recursion  Level--; //Back-Tracking  }  }  }  else {//Test  NoOfPatterns++;  if (IsAnswer()) {  NoOfAnswers++;  ShowAnswer();  }  }  }  int main(){  cout << " SEND" << endl;  cout << "+MORE" << endl;  cout << "MONEY" << endl<<endl;  Solve();  cout << "No of Answers found is " << NoOfAnswers << endl;  cout << "No of Patterns examined is " << NoOfPatterns << endl;  } |