//老师这道题我不会，看答案也没看懂。

#include <iostream>

#include <cstdlib>

#include <ctime>

#include <iomanip>

using namespace std;

const int RACE\_END = 70;

void moveTortoise( int \*const );

void moveHare( int \*const );

void printCurrentPositions( const int \*const, const int \*const );

int main()

{

int tortoise = 1;

int hare = 1;

int timer = 0;

srand( time( 0 ) );

cout << "ON YOUR MARK, GET SET\nBANG !!!!"

<< "\nAND THEY'RE OFF !!!!\n";

while ( tortoise != RACE\_END && hare != RACE\_END )

{

moveTortoise( &tortoise );

moveHare( &hare );

printCurrentPositions( &tortoise, &hare );

timer++;

}

if ( tortoise >= hare )

cout << "\nTORTOISE WINS!!! YAY!!!\n";

else

cout << "Hare wins. Yuch.\n";

cout << "TIME ELAPSED = " << timer << " seconds" << endl;

}

void moveTortoise( int \* const turtlePtr )

{

int x = 1 + rand() % 10;

if ( x >= 1 && x <= 5 )

\*turtlePtr += 3;

else if ( x == 6 || x == 7 )

\*turtlePtr -= 6;

else

++( \*turtlePtr );

if ( \*turtlePtr < 1 )

\*turtlePtr = 1;

else if ( \*turtlePtr > RACE\_END )

\*turtlePtr = RACE\_END;

}

void moveHare( int \* const rabbitPtr )

{

int y = 1 + rand() % 10;

if ( y == 3 || y == 4 )

\*rabbitPtr += 9;

else if ( y == 5 )

\*rabbitPtr -= 12;

else if ( y >= 6 && y <= 8 )

++( \*rabbitPtr );

else if ( y > 8 )

\*rabbitPtr -= 2;

if ( \*rabbitPtr < 1 )

\*rabbitPtr = 1;

else if ( \*rabbitPtr > RACE\_END )

\*rabbitPtr = RACE\_END;

}

void printCurrentPositions( const int \* const snapperPtr,

const int \* const bunnyPtr )

{

if ( \*bunnyPtr == \*snapperPtr )

cout << setw( \*bunnyPtr ) << "OUCH!!!";

else if ( \*bunnyPtr < \*snapperPtr )

cout << setw( \*bunnyPtr ) << 'H'

<< setw( \*snapperPtr - \*bunnyPtr ) << 'T';

else

cout << setw( \*snapperPtr ) << 'T'

<< setw( \*bunnyPtr - \*snapperPtr ) << 'H';

cout << '\n';

}