Your name: _____ Date: _____

Problem: Assignment 4

Problem description:

Time based discrete simulation
of falling dominoes

Input name	Description	Data type
initial state	initial configuration of sequence of dominoes	array of int

Output data:	Output form:	Data type:
initial state	printed	array of int
time 0 state (first domino tipped)	"	"
states after time steps 1 .. (1)	"	"

Strategy:

- read initial state
  - print initial state
- if first pos is upright domino, change to tipping
  - print time 0 state

- for time steps 1 .. 10
  - update state ✳
  - print state

Control flow sketch:

```
int state[NUM];
int next_state[NUM];
    tip 1st domino if upright
    ⋮

for ( 10 times ) {
    for (int i=0; i< NUM; i++) {
        if ( state[i] == UPRIGHT ) {
            if (state[i-1] == TIPPING) {
                next_state[i] = TIPPING;
            }
        } else if ( state[i] == TIPPING) {
            next_state[i] = HORIZ;
        }
    }                        ———— copy next-state to state
    ✳
    print state
}
}
```

update state

Similar problems:

#define NUM 10

define EMTPY 0
  "   UPRIGHT 1
  "   TIPPING 2
  "   HORIZ 3