

MonsterWorldGame.cpp MonsterWorld.h RankingBoard.h C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe

Week11_Homework3 (Global Scope)

```
1 #include "MonsterWorld.h"
2 #include "VariousMonsters.h"
3 #include "RankingBoard.h"
4 #include <time.h>
5
6 int main()
7 {
8     RankingBoard rank;
9     try { rank.load("MonsterWorld.rnk"); }
10    catch (FileNotFoundException e) {
11        char str[80];
12        string passwd, correct = "123456";
13        cout << "관리자 비밀번호를 입력하세요 : ";
14        for (int i = 0; i++) {
15            str[i] = _getch();
16            putchar('*');
17            if (str[i] == '\r') {
18                str[i] = '\0';
19                passwd = str;
20                cout << "\n";
21                break;
22            }
23        }
24        if (passwd != correct) {
25            cout << "비밀번호가 맞지 않습니다. 게임종료. \n\n";
26            exit(0);
27        }
28        rank.print("게임 랭킹 : 시작");
29
30        srand((unsigned int)time(NULL));
31        int w = 16, h = 8;
32
33        MonsterWorld game(w, h);
34        game.add(new Zombie("허접한좀비", "S", rand() % w, rand() % h));
35        game.add(new Vampire("헛파이어쥬", "X", rand() % w, rand() % h));
36        game.add(new KGhost("여러다귀신", "G", rand() % w, rand() % h));
37        game.add(new Jiangshi("못먹어도고", "g", rand() % w, rand() % h, true));
38        game.add(new Jiangshi("못먹어세로", "G", rand() % w, rand() % h, false));
39
40        Human* human = new Human("미래의인류", "H", rand() % w, rand() % h);
41        game.add(human);
42        game.play(500, 10);
43        printf("-----게임 종료-----\n");
44
45        rank.add(human->nitem, human->nitem / human->total);
46        rank.print("게임 랭킹 : 종료");
47        rank.store("MonsterWorld.rnk");
48        return 0;
49    }
```

79 % No issues found Ln: 50 Ch: 2 TABS CRLF

관리자 비밀번호를 입력하세요 :

MonsterWorldGame.cpp VariousMonsters.h MonsterWorld.h RankingBoard.h Microsoft Visual Studio Debug Console

Week11_Homework3 (Global Scope)

```
34 MonsterWorld game(w, h);
35 game.add(new Zombie("허접한좀비", "S", rand() % w, rand() % h));
36 game.add(new Vampire("헛파이어쥬", "X", rand() % w, rand() % h));
37 game.add(new KGhost("여러다귀신", "G", rand() % w, rand() % h));
38 game.add(new Jiangshi("못먹어도고", "g", rand() % w, rand() % h, true));
39 game.add(new Jiangshi("못먹어세로", "G", rand() % w, rand() % h, false));
40
41 Human* human = new Human("미래의인류", "H", rand() % w, rand() % h);
42 game.add(human);
43 game.play(500, 10);
44 printf("-----게임 종료-----\n");
45
46 rank.add(human->nitem, human->nitem / human->total);
47 rank.print("게임 랭킹 : 종료");
48 rank.store("MonsterWorld.rnk");
49 return 0;
50 }
```

79 % No issues found Ln: 8 Ch: 20 Col: 23 TABS CRLF

관리자 비밀번호를 입력하세요 : *****
비밀번호가 맞지 않습니다. 게임종료.

C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe (process 15200)
Press any key to close this window . . .

MonsterWorldGame.cpp VariousMonsters.h MonsterWorld.h RankingBoard.h Monster.h Matrix.h Point.h FileException.h Canvas.h

Week11_Homework3 Jiangshi

```
1 #pragma once
2 #include "Monster.h"
3 #include <conio.h>
4 enum Direction { Left = 75, Right = 77, Up = 72, Down = 80 };
5
6 class Zombie : public Monster {
7 public:
8     Zombie(string n = "허접한좀비", string i = "S", int x = 0, int y = 0)
9     : Monster(n, i, x, y) {}
10    ~Zombie() { cout << "Zombie"; }
11 };
12
13 class Vampire : public Monster {
14 public:
15     Vampire(string n = "헛파이어쥬", string i = "X", int x = 0, int y = 0)
16     : Monster(n, i, x, y) {}
17    ~Vampire() { cout << "Vampire"; }
18
19    void move(int** map, int maxx, int maxy) {
20        if (!isSleep()) {
21            int dir = rand() % 4;
22            if (dir == 0) p[0]--;
23            else if (dir == 1) p[0]++;
24            else if (dir == 2) p[1]--;
25            else p[1]++;
26            clip(maxx, maxy);
27            eat(map);
28        }
29    }
30 };
31
32 class KGhost : public Monster {
33 public:
34     KGhost(string n = "여러다귀신", string i = "G", int x = 0, int y = 0)
35     : Monster(n, i, x, y) {}
36    ~KGhost() { cout << "KGhost"; }
37 };
38
39 class Jiangshi : public Monster {
40 public:
41     Jiangshi(string n = "못먹어도고", string i = "g", int x = 0, int y = 0, bool isUp)
42     : Monster(n, i, x, y) {
43         if (isUp) isUp = true;
44         else isUp = false;
45     }
46    ~Jiangshi() { cout << "Jiangshi"; }
47
48    void move(int** map, int maxx, int maxy) {
49        if (!isSleep()) {
50            int dir = rand() % 4;
51            if (dir == 0) p[0]--;
52            else if (dir == 1) p[0]++;
53            else if (dir == 2) p[1]--;
54            else p[1]++;
55            clip(maxx, maxy);
56            eat(map);
57        }
58    }
59 };
60
61 class Jiangshi : public Monster {
62 public:
63     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
64     : Monster(n, i, x, y) {
65         if (isUp) isUp = true;
66         else isUp = false;
67     }
68    ~Jiangshi() { cout << "Jiangshi"; }
69
70    void move(int** map, int maxx, int maxy) {
71        if (!isSleep()) {
72            int dir = rand() % 4;
73            if (dir == 0) p[0]--;
74            else if (dir == 1) p[0]++;
75            else if (dir == 2) p[1]--;
76            else p[1]++;
77            clip(maxx, maxy);
78            eat(map);
79        }
80    }
81 };
82
83 class Jiangshi : public Monster {
84 public:
85     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
86     : Monster(n, i, x, y) {
87         if (isUp) isUp = true;
88         else isUp = false;
89     }
90    ~Jiangshi() { cout << "Jiangshi"; }
91
92    void move(int** map, int maxx, int maxy) {
93        if (!isSleep()) {
94            int dir = rand() % 4;
95            if (dir == 0) p[0]--;
96            else if (dir == 1) p[0]++;
97            else if (dir == 2) p[1]--;
98            else p[1]++;
99            clip(maxx, maxy);
100           eat(map);
101       }
102   }
103 };
104
105 class Jiangshi : public Monster {
106 public:
107     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
108     : Monster(n, i, x, y) {
109         if (isUp) isUp = true;
110         else isUp = false;
111     }
112    ~Jiangshi() { cout << "Jiangshi"; }
113
114    void move(int** map, int maxx, int maxy) {
115        if (!isSleep()) {
116            int dir = rand() % 4;
117            if (dir == 0) p[0]--;
118            else if (dir == 1) p[0]++;
119            else if (dir == 2) p[1]--;
120            else p[1]++;
121            clip(maxx, maxy);
122            eat(map);
123        }
124    }
125 };
126
127 class Jiangshi : public Monster {
128 public:
129     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
130     : Monster(n, i, x, y) {
131         if (isUp) isUp = true;
132         else isUp = false;
133     }
134    ~Jiangshi() { cout << "Jiangshi"; }
135
136    void move(int** map, int maxx, int maxy) {
137        if (!isSleep()) {
138            int dir = rand() % 4;
139            if (dir == 0) p[0]--;
140            else if (dir == 1) p[0]++;
141            else if (dir == 2) p[1]--;
142            else p[1]++;
143            clip(maxx, maxy);
144            eat(map);
145        }
146    }
147 };
148
149 class Jiangshi : public Monster {
150 public:
151     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
152     : Monster(n, i, x, y) {
153         if (isUp) isUp = true;
154         else isUp = false;
155     }
156    ~Jiangshi() { cout << "Jiangshi"; }
157
158    void move(int** map, int maxx, int maxy) {
159        if (!isSleep()) {
160            int dir = rand() % 4;
161            if (dir == 0) p[0]--;
162            else if (dir == 1) p[0]++;
163            else if (dir == 2) p[1]--;
164            else p[1]++;
165            clip(maxx, maxy);
166            eat(map);
167        }
168    }
169 };
170
171 class Jiangshi : public Monster {
172 public:
173     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
174     : Monster(n, i, x, y) {
175         if (isUp) isUp = true;
176         else isUp = false;
177     }
178    ~Jiangshi() { cout << "Jiangshi"; }
179
180    void move(int** map, int maxx, int maxy) {
181        if (!isSleep()) {
182            int dir = rand() % 4;
183            if (dir == 0) p[0]--;
184            else if (dir == 1) p[0]++;
185            else if (dir == 2) p[1]--;
186            else p[1]++;
187            clip(maxx, maxy);
188            eat(map);
189        }
190    }
191 };
192
193 class Jiangshi : public Monster {
194 public:
195     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
196     : Monster(n, i, x, y) {
197         if (isUp) isUp = true;
198         else isUp = false;
199     }
200    ~Jiangshi() { cout << "Jiangshi"; }
201
202    void move(int** map, int maxx, int maxy) {
203        if (!isSleep()) {
204            int dir = rand() % 4;
205            if (dir == 0) p[0]--;
206            else if (dir == 1) p[0]++;
207            else if (dir == 2) p[1]--;
208            else p[1]++;
209            clip(maxx, maxy);
210            eat(map);
211        }
212    }
213 };
214
215 class Jiangshi : public Monster {
216 public:
217     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
218     : Monster(n, i, x, y) {
219         if (isUp) isUp = true;
220         else isUp = false;
221     }
222    ~Jiangshi() { cout << "Jiangshi"; }
223
224    void move(int** map, int maxx, int maxy) {
225        if (!isSleep()) {
226            int dir = rand() % 4;
227            if (dir == 0) p[0]--;
228            else if (dir == 1) p[0]++;
229            else if (dir == 2) p[1]--;
230            else p[1]++;
231            clip(maxx, maxy);
232            eat(map);
233        }
234    }
235 };
236
237 class Jiangshi : public Monster {
238 public:
239     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
240     : Monster(n, i, x, y) {
241         if (isUp) isUp = true;
242         else isUp = false;
243     }
244    ~Jiangshi() { cout << "Jiangshi"; }
245
246    void move(int** map, int maxx, int maxy) {
247        if (!isSleep()) {
248            int dir = rand() % 4;
249            if (dir == 0) p[0]--;
250            else if (dir == 1) p[0]++;
251            else if (dir == 2) p[1]--;
252            else p[1]++;
253            clip(maxx, maxy);
254            eat(map);
255        }
256    }
257 };
258
259 class Jiangshi : public Monster {
260 public:
261     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
262     : Monster(n, i, x, y) {
263         if (isUp) isUp = true;
264         else isUp = false;
265     }
266    ~Jiangshi() { cout << "Jiangshi"; }
267
268    void move(int** map, int maxx, int maxy) {
269        if (!isSleep()) {
270            int dir = rand() % 4;
271            if (dir == 0) p[0]--;
272            else if (dir == 1) p[0]++;
273            else if (dir == 2) p[1]--;
274            else p[1]++;
275            clip(maxx, maxy);
276            eat(map);
277        }
278    }
279 };
280
281 class Jiangshi : public Monster {
282 public:
283     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
284     : Monster(n, i, x, y) {
285         if (isUp) isUp = true;
286         else isUp = false;
287     }
288    ~Jiangshi() { cout << "Jiangshi"; }
289
290    void move(int** map, int maxx, int maxy) {
291        if (!isSleep()) {
292            int dir = rand() % 4;
293            if (dir == 0) p[0]--;
294            else if (dir == 1) p[0]++;
295            else if (dir == 2) p[1]--;
296            else p[1]++;
297            clip(maxx, maxy);
298            eat(map);
299        }
300    }
301 };
302
303 class Jiangshi : public Monster {
304 public:
305     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
306     : Monster(n, i, x, y) {
307         if (isUp) isUp = true;
308         else isUp = false;
309     }
310    ~Jiangshi() { cout << "Jiangshi"; }
311
312    void move(int** map, int maxx, int maxy) {
313        if (!isSleep()) {
314            int dir = rand() % 4;
315            if (dir == 0) p[0]--;
316            else if (dir == 1) p[0]++;
317            else if (dir == 2) p[1]--;
318            else p[1]++;
319            clip(maxx, maxy);
320            eat(map);
321        }
322    }
323 };
324
325 class Jiangshi : public Monster {
326 public:
327     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
328     : Monster(n, i, x, y) {
329         if (isUp) isUp = true;
330         else isUp = false;
331     }
332    ~Jiangshi() { cout << "Jiangshi"; }
333
334    void move(int** map, int maxx, int maxy) {
335        if (!isSleep()) {
336            int dir = rand() % 4;
337            if (dir == 0) p[0]--;
338            else if (dir == 1) p[0]++;
339            else if (dir == 2) p[1]--;
340            else p[1]++;
341            clip(maxx, maxy);
342            eat(map);
343        }
344    }
345 };
346
347 class Jiangshi : public Monster {
348 public:
349     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
350     : Monster(n, i, x, y) {
351         if (isUp) isUp = true;
352         else isUp = false;
353     }
354    ~Jiangshi() { cout << "Jiangshi"; }
355
356    void move(int** map, int maxx, int maxy) {
357        if (!isSleep()) {
358            int dir = rand() % 4;
359            if (dir == 0) p[0]--;
360            else if (dir == 1) p[0]++;
361            else if (dir == 2) p[1]--;
362            else p[1]++;
363            clip(maxx, maxy);
364            eat(map);
365        }
366    }
367 };
368
369 class Jiangshi : public Monster {
370 public:
371     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
372     : Monster(n, i, x, y) {
373         if (isUp) isUp = true;
374         else isUp = false;
375     }
376    ~Jiangshi() { cout << "Jiangshi"; }
377
378    void move(int** map, int maxx, int maxy) {
379        if (!isSleep()) {
380            int dir = rand() % 4;
381            if (dir == 0) p[0]--;
382            else if (dir == 1) p[0]++;
383            else if (dir == 2) p[1]--;
384            else p[1]++;
385            clip(maxx, maxy);
386            eat(map);
387        }
388    }
389 };
390
391 class Jiangshi : public Monster {
392 public:
393     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
394     : Monster(n, i, x, y) {
395         if (isUp) isUp = true;
396         else isUp = false;
397     }
398    ~Jiangshi() { cout << "Jiangshi"; }
399
400    void move(int** map, int maxx, int maxy) {
401        if (!isSleep()) {
402            int dir = rand() % 4;
403            if (dir == 0) p[0]--;
404            else if (dir == 1) p[0]++;
405            else if (dir == 2) p[1]--;
406            else p[1]++;
407            clip(maxx, maxy);
408            eat(map);
409        }
410    }
411 };
412
413 class Jiangshi : public Monster {
414 public:
415     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
416     : Monster(n, i, x, y) {
417         if (isUp) isUp = true;
418         else isUp = false;
419     }
420    ~Jiangshi() { cout << "Jiangshi"; }
421
422    void move(int** map, int maxx, int maxy) {
423        if (!isSleep()) {
424            int dir = rand() % 4;
425            if (dir == 0) p[0]--;
426            else if (dir == 1) p[0]++;
427            else if (dir == 2) p[1]--;
428            else p[1]++;
429            clip(maxx, maxy);
430            eat(map);
431        }
432    }
433 };
434
435 class Jiangshi : public Monster {
436 public:
437     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
438     : Monster(n, i, x, y) {
439         if (isUp) isUp = true;
440         else isUp = false;
441     }
442    ~Jiangshi() { cout << "Jiangshi"; }
443
444    void move(int** map, int maxx, int maxy) {
445        if (!isSleep()) {
446            int dir = rand() % 4;
447            if (dir == 0) p[0]--;
448            else if (dir == 1) p[0]++;
449            else if (dir == 2) p[1]--;
450            else p[1]++;
451            clip(maxx, maxy);
452            eat(map);
453        }
454    }
455 };
456
457 class Jiangshi : public Monster {
458 public:
459     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
460     : Monster(n, i, x, y) {
461         if (isUp) isUp = true;
462         else isUp = false;
463     }
464    ~Jiangshi() { cout << "Jiangshi"; }
465
466    void move(int** map, int maxx, int maxy) {
467        if (!isSleep()) {
468            int dir = rand() % 4;
469            if (dir == 0) p[0]--;
470            else if (dir == 1) p[0]++;
471            else if (dir == 2) p[1]--;
472            else p[1]++;
473            clip(maxx, maxy);
474            eat(map);
475        }
476    }
477 };
478
479 class Jiangshi : public Monster {
480 public:
481     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
482     : Monster(n, i, x, y) {
483         if (isUp) isUp = true;
484         else isUp = false;
485     }
486    ~Jiangshi() { cout << "Jiangshi"; }
487
488    void move(int** map, int maxx, int maxy) {
489        if (!isSleep()) {
490            int dir = rand() % 4;
491            if (dir == 0) p[0]--;
492            else if (dir == 1) p[0]++;
493            else if (dir == 2) p[1]--;
494            else p[1]++;
495            clip(maxx, maxy);
496            eat(map);
497        }
498    }
499 };
500
501 class Jiangshi : public Monster {
502 public:
503     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
504     : Monster(n, i, x, y) {
505         if (isUp) isUp = true;
506         else isUp = false;
507     }
508    ~Jiangshi() { cout << "Jiangshi"; }
509
510    void move(int** map, int maxx, int maxy) {
511        if (!isSleep()) {
512            int dir = rand() % 4;
513            if (dir == 0) p[0]--;
514            else if (dir == 1) p[0]++;
515            else if (dir == 2) p[1]--;
516            else p[1]++;
517            clip(maxx, maxy);
518            eat(map);
519        }
520    }
521 };
522
523 class Jiangshi : public Monster {
524 public:
525     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
526     : Monster(n, i, x, y) {
527         if (isUp) isUp = true;
528         else isUp = false;
529     }
530    ~Jiangshi() { cout << "Jiangshi"; }
531
532    void move(int** map, int maxx, int maxy) {
533        if (!isSleep()) {
534            int dir = rand() % 4;
535            if (dir == 0) p[0]--;
536            else if (dir == 1) p[0]++;
537            else if (dir == 2) p[1]--;
538            else p[1]++;
539            clip(maxx, maxy);
540            eat(map);
541        }
542    }
543 };
544
545 class Jiangshi : public Monster {
546 public:
547     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
548     : Monster(n, i, x, y) {
549         if (isUp) isUp = true;
550         else isUp = false;
551     }
552    ~Jiangshi() { cout << "Jiangshi"; }
553
554    void move(int** map, int maxx, int maxy) {
555        if (!isSleep()) {
556            int dir = rand() % 4;
557            if (dir == 0) p[0]--;
558            else if (dir == 1) p[0]++;
559            else if (dir == 2) p[1]--;
560            else p[1]++;
561            clip(maxx, maxy);
562            eat(map);
563        }
564    }
565 };
566
567 class Jiangshi : public Monster {
568 public:
569     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
570     : Monster(n, i, x, y) {
571         if (isUp) isUp = true;
572         else isUp = false;
573     }
574    ~Jiangshi() { cout << "Jiangshi"; }
575
576    void move(int** map, int maxx, int maxy) {
577        if (!isSleep()) {
578            int dir = rand() % 4;
579            if (dir == 0) p[0]--;
580            else if (dir == 1) p[0]++;
581            else if (dir == 2) p[1]--;
582            else p[1]++;
583            clip(maxx, maxy);
584            eat(map);
585        }
586    }
587 };
588
589 class Jiangshi : public Monster {
590 public:
591     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
592     : Monster(n, i, x, y) {
593         if (isUp) isUp = true;
594         else isUp = false;
595     }
596    ~Jiangshi() { cout << "Jiangshi"; }
597
598    void move(int** map, int maxx, int maxy) {
599        if (!isSleep()) {
600            int dir = rand() % 4;
601            if (dir == 0) p[0]--;
602            else if (dir == 1) p[0]++;
603            else if (dir == 2) p[1]--;
604            else p[1]++;
605            clip(maxx, maxy);
606            eat(map);
607        }
608    }
609 };
610
611 class Jiangshi : public Monster {
612 public:
613     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
614     : Monster(n, i, x, y) {
615         if (isUp) isUp = true;
616         else isUp = false;
617     }
618    ~Jiangshi() { cout << "Jiangshi"; }
619
620    void move(int** map, int maxx, int maxy) {
621        if (!isSleep()) {
622            int dir = rand() % 4;
623            if (dir == 0) p[0]--;
624            else if (dir == 1) p[0]++;
625            else if (dir == 2) p[1]--;
626            else p[1]++;
627            clip(maxx, maxy);
628            eat(map);
629        }
630    }
631 };
632
633 class Jiangshi : public Monster {
634 public:
635     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
636     : Monster(n, i, x, y) {
637         if (isUp) isUp = true;
638         else isUp = false;
639     }
640    ~Jiangshi() { cout << "Jiangshi"; }
641
642    void move(int** map, int maxx, int maxy) {
643        if (!isSleep()) {
644            int dir = rand() % 4;
645            if (dir == 0) p[0]--;
646            else if (dir == 1) p[0]++;
647            else if (dir == 2) p[1]--;
648            else p[1]++;
649            clip(maxx, maxy);
650            eat(map);
651        }
652    }
653 };
654
655 class Jiangshi : public Monster {
656 public:
657     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
658     : Monster(n, i, x, y) {
659         if (isUp) isUp = true;
660         else isUp = false;
661     }
662    ~Jiangshi() { cout << "Jiangshi"; }
663
664    void move(int** map, int maxx, int maxy) {
665        if (!isSleep()) {
666            int dir = rand() % 4;
667            if (dir == 0) p[0]--;
668            else if (dir == 1) p[0]++;
669            else if (dir == 2) p[1]--;
670            else p[1]++;
671            clip(maxx, maxy);
672            eat(map);
673        }
674    }
675 };
676
677 class Jiangshi : public Monster {
678 public:
679     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
680     : Monster(n, i, x, y) {
681         if (isUp) isUp = true;
682         else isUp = false;
683     }
684    ~Jiangshi() { cout << "Jiangshi"; }
685
686    void move(int** map, int maxx, int maxy) {
687        if (!isSleep()) {
688            int dir = rand() % 4;
689            if (dir == 0) p[0]--;
690            else if (dir == 1) p[0]++;
691            else if (dir == 2) p[1]--;
692            else p[1]++;
693            clip(maxx, maxy);
694            eat(map);
695        }
696    }
697 };
698
699 class Jiangshi : public Monster {
700 public:
701     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
702     : Monster(n, i, x, y) {
703         if (isUp) isUp = true;
704         else isUp = false;
705     }
706    ~Jiangshi() { cout << "Jiangshi"; }
707
708    void move(int** map, int maxx, int maxy) {
709        if (!isSleep()) {
710            int dir = rand() % 4;
711            if (dir == 0) p[0]--;
712            else if (dir == 1) p[0]++;
713            else if (dir == 2) p[1]--;
714            else p[1]++;
715            clip(maxx, maxy);
716            eat(map);
717        }
718    }
719 };
720
721 class Jiangshi : public Monster {
722 public:
723     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
724     : Monster(n, i, x, y) {
725         if (isUp) isUp = true;
726         else isUp = false;
727     }
728    ~Jiangshi() { cout << "Jiangshi"; }
729
730    void move(int** map, int maxx, int maxy) {
731        if (!isSleep()) {
732            int dir = rand() % 4;
733            if (dir == 0) p[0]--;
734            else if (dir == 1) p[0]++;
735            else if (dir == 2) p[1]--;
736            else p[1]++;
737            clip(maxx, maxy);
738            eat(map);
739        }
740    }
741 };
742
743 class Jiangshi : public Monster {
744 public:
745     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
746     : Monster(n, i, x, y) {
747         if (isUp) isUp = true;
748         else isUp = false;
749     }
750    ~Jiangshi() { cout << "Jiangshi"; }
751
752    void move(int** map, int maxx, int maxy) {
753        if (!isSleep()) {
754            int dir = rand() % 4;
755            if (dir == 0) p[0]--;
756            else if (dir == 1) p[0]++;
757            else if (dir == 2) p[1]--;
758            else p[1]++;
759            clip(maxx, maxy);
760            eat(map);
761        }
762    }
763 };
764
765 class Jiangshi : public Monster {
766 public:
767     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
768     : Monster(n, i, x, y) {
769         if (isUp) isUp = true;
770         else isUp = false;
771     }
772    ~Jiangshi() { cout << "Jiangshi"; }
773
774    void move(int** map, int maxx, int maxy) {
775        if (!isSleep()) {
776            int dir = rand() % 4;
777            if (dir == 0) p[0]--;
778            else if (dir == 1) p[0]++;
779            else if (dir == 2) p[1]--;
780            else p[1]++;
781            clip(maxx, maxy);
782            eat(map);
783        }
784    }
785 };
786
787 class Jiangshi : public Monster {
788 public:
789     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
790     : Monster(n, i, x, y) {
791         if (isUp) isUp = true;
792         else isUp = false;
793     }
794    ~Jiangshi() { cout << "Jiangshi"; }
795
796    void move(int** map, int maxx, int maxy) {
797        if (!isSleep()) {
798            int dir = rand() % 4;
799            if (dir == 0) p[0]--;
800            else if (dir == 1) p[0]++;
801            else if (dir == 2) p[1]--;
802            else p[1]++;
803            clip(maxx, maxy);
804            eat(map);
805        }
806    }
807 };
808
809 class Jiangshi : public Monster {
810 public:
811     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
812     : Monster(n, i, x, y) {
813         if (isUp) isUp = true;
814         else isUp = false;
815     }
816    ~Jiangshi() { cout << "Jiangshi"; }
817
818    void move(int** map, int maxx, int maxy) {
819        if (!isSleep()) {
820            int dir = rand() % 4;
821            if (dir == 0) p[0]--;
822            else if (dir == 1) p[0]++;
823            else if (dir == 2) p[1]--;
824            else p[1]++;
825            clip(maxx, maxy);
826            eat(map);
827        }
828    }
829 };
830
831 class Jiangshi : public Monster {
832 public:
833     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
834     : Monster(n, i, x, y) {
835         if (isUp) isUp = true;
836         else isUp = false;
837     }
838    ~Jiangshi() { cout << "Jiangshi"; }
839
840    void move(int** map, int maxx, int maxy) {
841        if (!isSleep()) {
842            int dir = rand() % 4;
843            if (dir == 0) p[0]--;
844            else if (dir == 1) p[0]++;
845            else if (dir == 2) p[1]--;
846            else p[1]++;
847            clip(maxx, maxy);
848            eat(map);
849        }
850    }
851 };
852
853 class Jiangshi : public Monster {
854 public:
855     Jiangshi(string n = "못먹어세로", string i = "G", int x = 0, int y = 0, bool isUp)
856     : Monster(n, i, x, y) {
857         if (isUp) isUp = true;
858         else isUp = false;
859     }
860    ~Jiangshi() { cout << "Jiangshi"; }
861
862    void move(int** map, int maxx, int maxy) {
863        if (!isSleep()) {
864            int dir = rand() % 4;
865            if (dir == 0) p[0]--;
866            else if (dir == 1) p[0]++;
867            else if (dir == 2) p[1]--;
868            else p[1]++;
869            clip(maxx, maxy);
870            eat(map);
871        }
872
```

MonsterWorldGame.cpp

VariousMonsters.h

MonsterWorld.h

RankingBoard.h

Monster.h

Matrix.h

Point.h

FileException.h

Canvas.h

Week11_Homework3

KGhost(string n = "치녀귀신", string i = "♥", int x = 0, int y = 0)
: Monster(n, i, x, y) {}
~KGhost() { cout << " KGhost"; }

void move(int** map, int maxx, int maxy) {
if (!isSleep()) {
p = Point(rand() % maxx, rand() % maxy);
clip(maxx, maxy);
eat(map);
}
}
};

class Jiangshi : public Monster {
bool bHori;
public:
Jiangshi(string n = "대륙강shi", string i = "♠", int x = 0, int y = 0, bool bH = true)
: Monster(n, i, x, y), bHori(bH) {}
~Jiangshi() { cout << " Jiangshi"; }

void move(int** map, int maxx, int maxy) {
if (!isSleep()) {
int dir = rand() % 2;
int jump = rand() % 2 + 1;
if (bHori) p[0] += ((dir == 0) ? -jump : jump);
else p[1] += ((dir == 0) ? -jump : jump);
clip(maxx, maxy);
eat(map);
}
}
};

class Human : public Monster {
public:
Human(string n = "미래인류", string i = "♀", int px = 0, int py = 0)
: Monster(n, i, px, py) {}
~Human() { cout << " Human"; }

int getDirKey() { return _getche() == 224 ? _getche() : 0; }

void move(int** map, int maxx, int maxy) {
if (_kbhit()) {
char ch = getDirKey();
if (ch == Left) p[0]--;
else if (ch == Right) p[0]++;
else if (ch == Up) p[1]--;
else if (ch == Down) p[1]++;
else return;
clip(maxx, maxy);
eat(map);
}
}
};

79 %
No issues found

C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe

관리자 비밀번호를 입력하세요 : *****

[게임 랭킹 : 시작]
[1위] 신인류 0 0
[2위] 신인류 0 0
[3위] 신인류 0 0
[4위] 신인류 0 0
[5위] 신인류 0 0
엔터를 입력하세요.

MonsterWorldGame.cpp

VariousMonsters.h

MonsterWorld.h

RankingBoard.h

Monster.h

Matrix.h

Point.h

FileException.h

Canvas.h

Week11_Homework3

Human(string n = "미래인류", string i = "♀", int px = 0, int py = 0)
: Monster(n, i, px, py) {}
~Human() { cout << " [Human]"; }

int getDirKey() { return _getche() == 224 ? _getche() : 0; }

void move(int** map, int maxx, int maxy) {
if (_kbhit()) {
char ch = getDirKey();
if (ch == Left) p[0]--;
else if (ch == Right) p[0]++;
else if (ch == Up) p[1]--;
else if (ch == Down) p[1]++;
else return;
clip(maxx, maxy);
eat(map);
}
}
};

79 %
No issues found

C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe

[Monster World (relaxed World)]

전체 이동 횟수 = 0
남은 아이템 수 = 128
허접한좀비 \$:0:0
뱀파이어썸 ★ :0:0
어쩌다귀신 ♥ :0:0
못먹어도고 ← :0:0
못먹어도고 → :0:0
미래의인류 ♀ :0:0
엔터를 누르세요...

MonsterWorldGame.cpp

VariousMonsters.h

MonsterWorld.h

RankingBoard.h

Monster.h

Matrix.h

Point.h

FileException.h

Canvas.h

Week11_Homework3

#pragma once
#include "Canvas.h"
#include "Monster.h"
#include "Matrix.h"
#include <Windows.h>
#define MAXMONS 8

class MonsterWorld
{
Matrix world;
int xMax, yMax, nMon, nMove;
Monster* pMon[MAXMONS];
Canvas canvas;

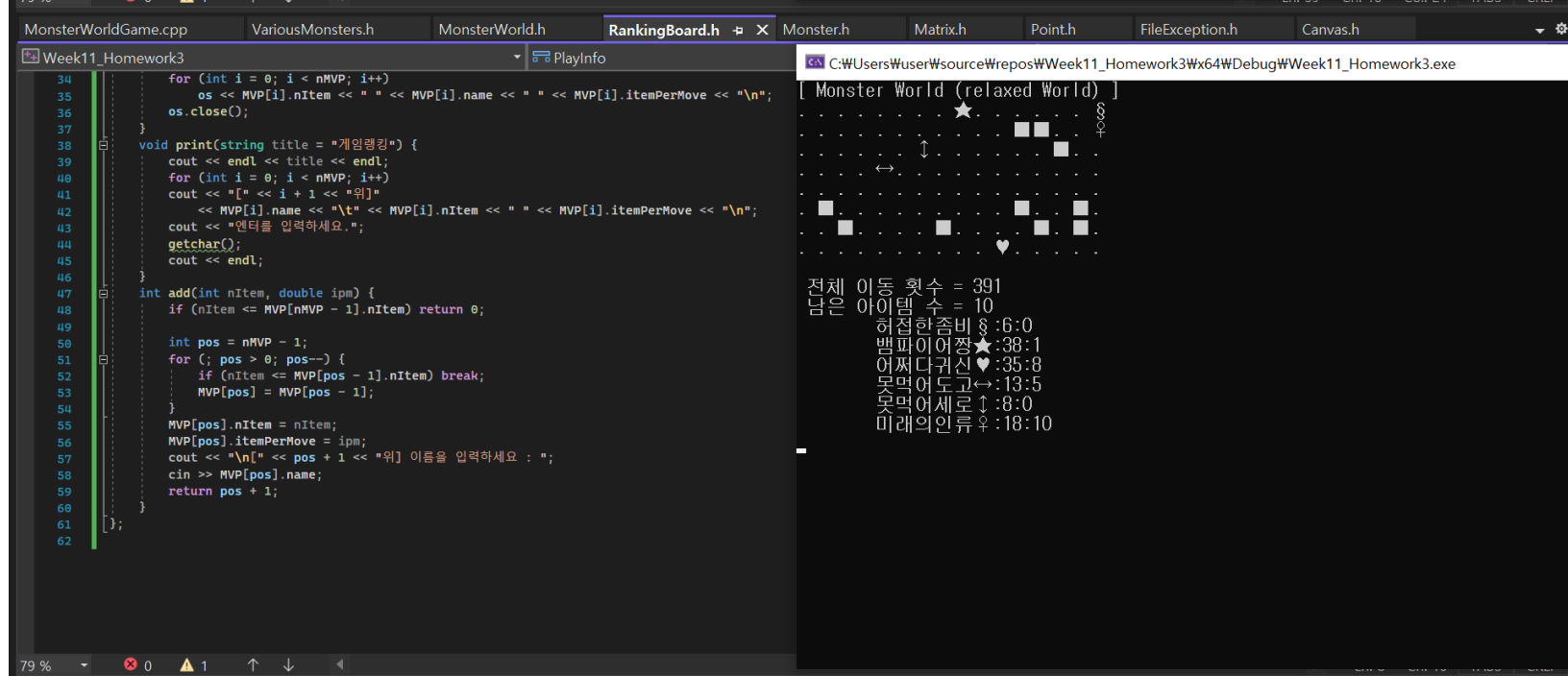
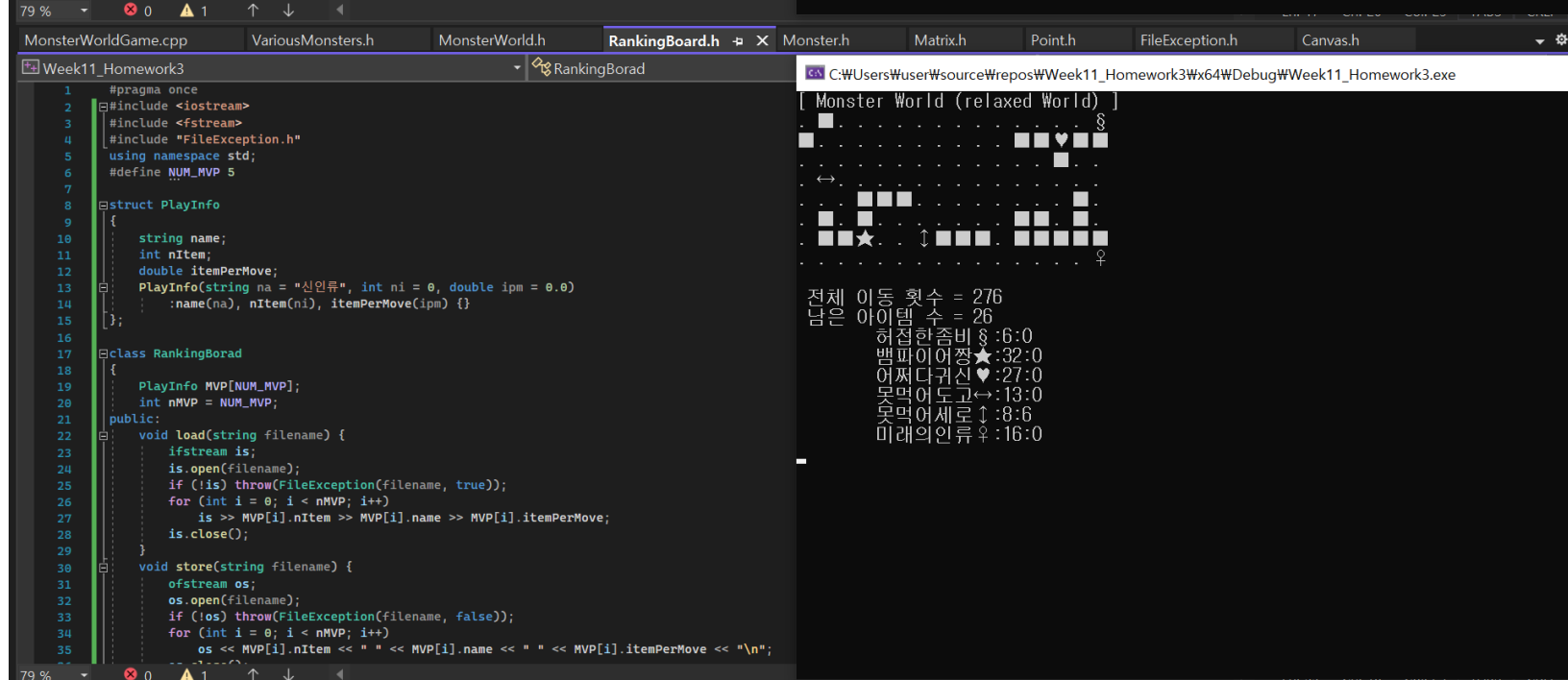
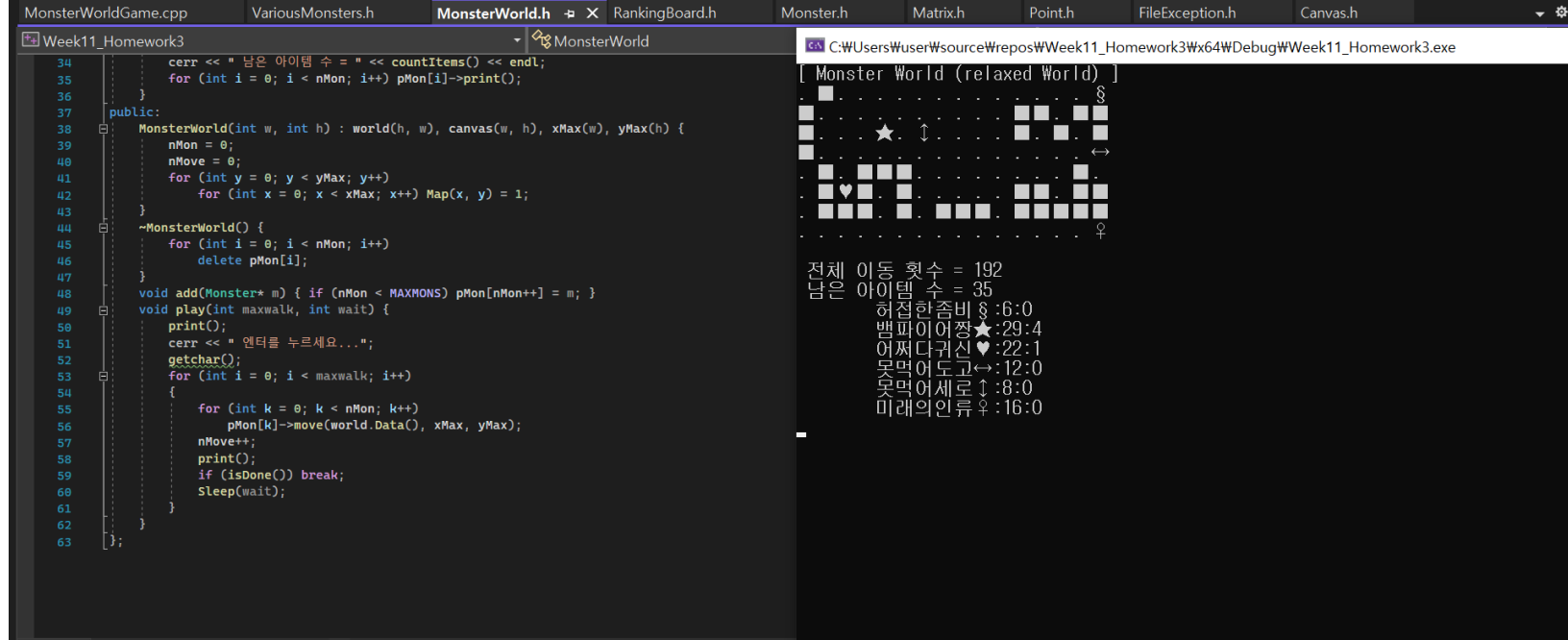
int& Map(int x, int y) { return world.elem(x, y); }
bool isDone() { return countItems() == 0; }
int countItems() {
int nItems = 0;
for (int y = 0; y < yMax; y++)
for (int x = 0; x < xMax; x++)
if (Map(x, y) > 0) nItems++;
return nItems;
}
void print() {
canvas.clear(" ");
for (int y = 0; y < yMax; y++)
for (int x = 0; x < xMax; x++)
if (Map(x, y) > 0) canvas.draw(x, y, "■");
for (int i = 0; i < nMon; i++)
pMon[i] -> draw(canvas);
canvas.print("[Monster World (relaxed World)]");
cerr << " 전체 이동 횟수 = " << nMove << endl;
cerr << " 남은 아이템 수 = " << countItems() << endl;
for (int i = 0; i < nMon; i++) pMon[i] -> print();
}

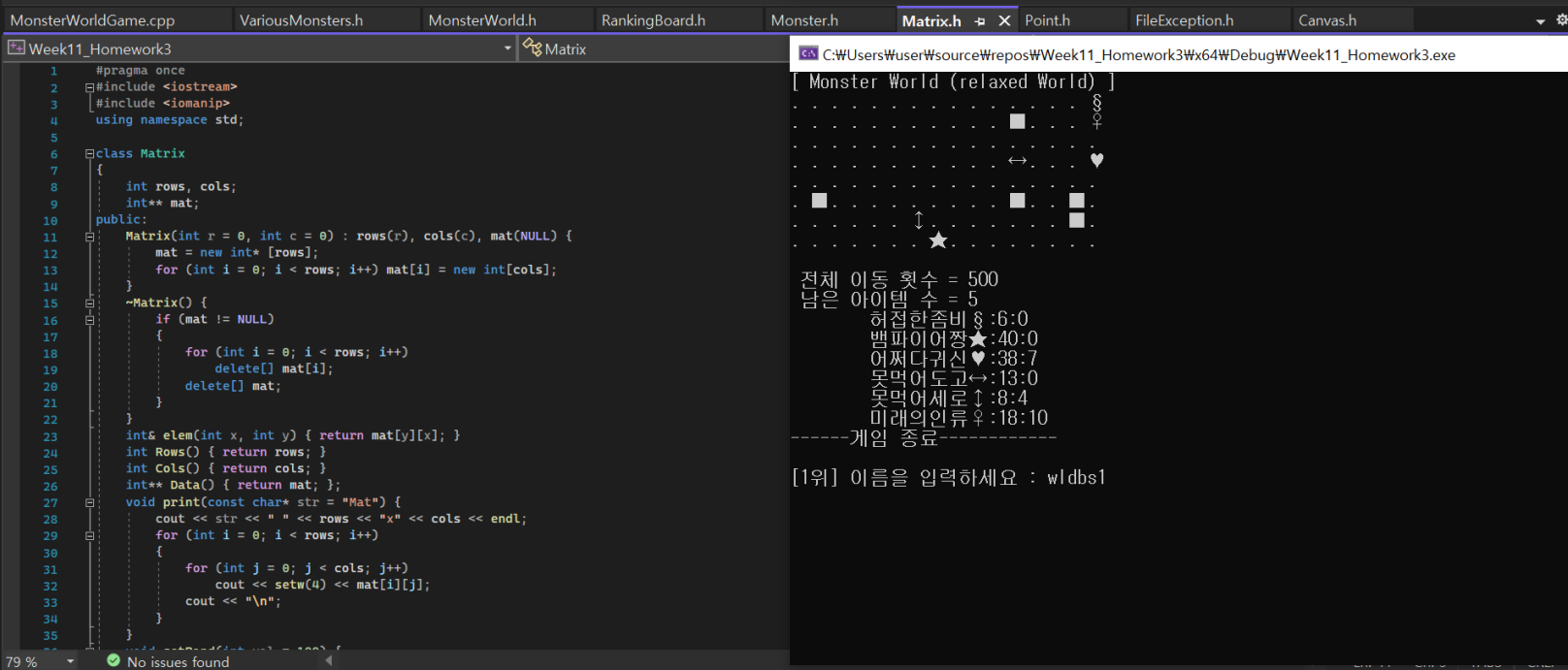
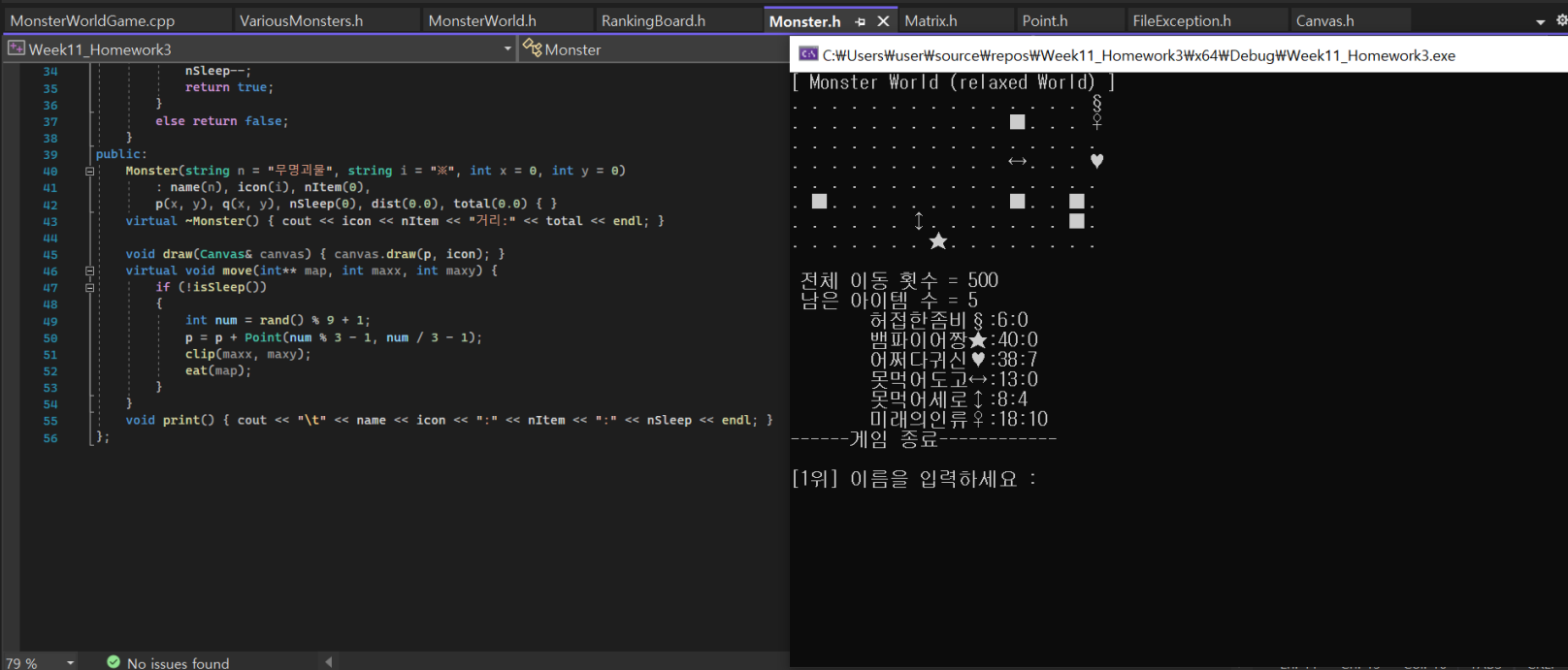
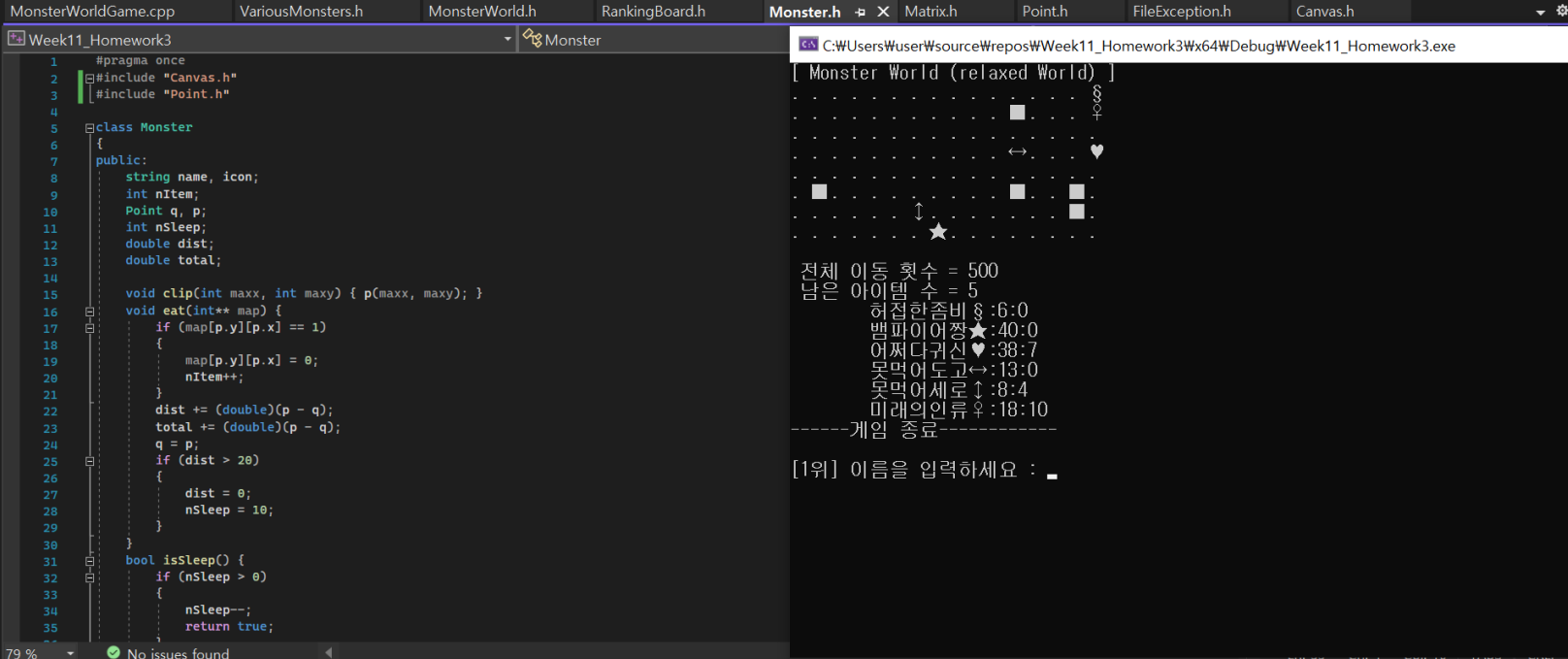
79 %
0 1

C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe

[Monster World (relaxed World)]

전체 이동 횟수 = 19
남은 아이템 수 = 92
허접한좀비 \$:6:0
뱀파이어썸 ★ :10:0
어쩌다귀신 ♥ :5:0
못먹어도고 ← :7:6
못먹어도고 → :8:9
미래의인류 ♀ :0:0





MonsterWorldGame.cppVariousMonsters.hMonsterWorld.hRankingBoard.hMatrix.hPoint.hFileException.hCanvas.h

Week11_Homework3Matrix

```
34 }
35
36 void setRand(int val = 100) {
37     if (mat != NULL)
38     {
39         for (int i = 0; i < rows; i++)
40             for (int j = 0; j < cols; j++)
41                 mat[i][j] = (rand() % val);
42     }
43 }
44 };
```

Microsoft Visual Studio Debug Console

```
.....★.....
전체 이동 횟수 = 500
남은 아이템 수 = 5
하접한줄비 §:6:0
뱀파이어짱★:40:0
어쩌다귀신♥:38:7
못먹어도고↔:13:0
못먹어세로↑:8:4
미래의인류♀:18:10
-----게임 종료-----

[1위] 이름을 입력하세요 : wldbs1

[게임 랭킹 : 종료]
[1위]wldbs1      18 0.75
[2위]신인류      0 0
[3위]신인류      0 0
[4위]신인류      0 0
[5위]신인류      0 0
엔터를 입력하세요.
Zombie § 6거리:7.82843
Vampire★40거리:322
KGhost♥38거리:885.128
Jangshi↔13거리:413
Jangshi↑8거리:381
[Human ]♀18거리:24

C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe (process 3788)
Press any key to close this window . . .
```

79 % No issues found

MonsterWorldGame.cppVariousMonsters.hMonsterWorld.hRankingBoard.hMonster.hMatrix.hPoint.hFileException.hCanvas.h

Week11_Homework3Point

```
1 #pragma once
2 #include <iostream>
3 #include <cmath>
4 using namespace std;
5
6 class Point
7 {
8     int x, y;
9     friend class Monster;
10    friend class Canvas;
11 public:
12    Point(int xx = 0, int yy = 0) :x(xx), y(yy) {}
13
14    int& operator[] (int id) {
15        if (id == 0) return x;
16        else if (id == 1) return y;
17        else exit(0);
18    }
19
20    operator double() { return sqrt((double)x * x + y * y); }
21
22    void operator() (int maxx, int maxy) {
23        if (x < 0) x = 0;
24        if (x >= maxx) x = maxx - 1;
25        if (y < 0) y = 0;
26        if (y >= maxy) y = maxy - 1;
27    }
28
29    Point operator- () { return Point(-x, -y); }
30
31    bool operator== (Point& p) { return x == p.x && y == p.y; }
32    bool operator!= (Point& p) { return x != p.x || y != p.y; }
33    Point operator- (Point& p) { return Point(x - p.x, y - p.y); }
34    Point operator+ (Point& p) { return Point(x + p.x, y + p.y); }
35    void operator+= (Point& p) { x += p.x, y += p.y; }
36    void operator-= (Point& p) { x -= p.x, y -= p.y; }
37 };
```

C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe

```
[게임 랭킹 : 시작]
[1위]wldbs1      18 0.75
[2위]신인류      0 0
[3위]신인류      0 0
[4위]신인류      0 0
[5위]신인류      0 0
엔터를 입력하세요.
```

79 % 0 1 ↑ ↓

MonsterWorldGame.cppVariousMonsters.hMonsterWorld.hRankingBoard.hMonster.hMatrix.hPoint.hFileException.hCanvas.h

Week11_Homework3FileException

```
1 #pragma once
2 #include <string>
3 using namespace std;
4
5 struct FileException
6 {
7     string filename;
8     bool bRead;
9     FileException(string name, bool b) : filename(name), bRead(b) {}
10 };
```

Microsoft Visual Studio Debug Console

```
.....
전체 이동 횟수 = 229
남은 아이템 수 = 0
하접한줄비 §:1:0
뱀파이어짱★:22:2
어쩌다귀신♥:19:8
못먹어도고↔:10:4
못먹어세로↑:7:7
미래의인류♀:69:10
-----게임 종료-----

[1위] 이름을 입력하세요 : wldbs2

[게임 랭킹 : 종료]
[1위]wldbs2      69 0.539062
[2위]wldbs1      18 0.75
[3위]신인류      0 0
[4위]신인류      0 0
[5위]신인류      0 0
엔터를 입력하세요.
Zombie § 1거리:6.08276
Vampire★22거리:147
KGhost♥19거리:423.474
Jangshi↔10거리:193
Jangshi↑7거리:191
[Human ]♀69거리:128

C:\Users\User\source\repos\Week11_Homework3\Week11_Homework3.exe (process 3788) exit
Press any key to close this window . . .
```

79 % No issues found

MonsterWorldGame.cppVariousMonsters.hMonsterWorld.hRankingBoard.hMonster.hMatrix.hPoint.hFileException.hCanvas.h

Week11_Homework3Canvas

```
1  #pragma once
2  #include <iostream>
3  #include <string>
4  #include "Point.h"
5  #define MAXLINES 100
6  using namespace std;
7
8  class Canvas
9  {
10     string line[MAXLINES];
11     int xMax, yMax;
12 public:
13     Canvas(int nx = 10, int ny = 10) : xMax(nx), yMax(ny) {
14         for (int y = 0; y < yMax; y++)
15             line[y] = string(xMax * 2, ' ');
16     }
17     void draw(int x, int y, string val) {
18         if (x >= 0 && y >= 0 && x < xMax && y < yMax)
19             line[y].replace(x * 2, 2, val);
20     }
21     void draw(Point& p, string val) { draw(p.x, p.y, val); }
22     void clear(string val = " ") {
23         for (int y = 0; y < yMax; y++)
24             for (int x = 0; x < xMax; x++)
25                 draw(x, y, val);
26     }
27     void print(const char* title = "<My Canvas>") {
28         system("cls");
29         cout << title << endl;
30         for (int y = 0; y < yMax; y++)
31             cout << line[y] << endl;
32         cout << endl;
33     }
34 }
```

79 % 0 2 ↑ ↓ ◀ ▶ Ln: 34 Ch: 3 TABS CRLF