Introduction

- Student nam: Shubh Maheshwari
- Student Roll Number: 20161170
- Code Review of: 20161170/new
- Lines of code reviewed: 375
- Number of classes: 6
- Number of methods: 30
- Bugs identified: 6 (pseudo) & 0 (fatal)
- Code smells identified: 100

Conventions and Smells

This file contains the details of the errors and styling problems after refactoring the code. The final score of the code after refactoring is 5.42/10. The errors have been highlighted below.

Errors

Module Assignment3.new.asciiDrawings

```
C: 62, 0: Line too long (118/100) (line-too-long)
C: 73, 0: Line too long (116/100) (line-too-long)
C: 74, 0: Line too long (116/100) (line-too-long)
C: 75, 0: Line too long (116/100) (line-too-long)
C: 76, 0: Line too long (113/100) (line-too-long)
C: 77, 0: Line too long (122/100) (line-too-long)
C: 79, 0: Line too long (113/100) (line-too-long)
C: 80, 0: Line too long (119/100) (line-too-long)
C: 81, 0: Line too long (122/100) (line-too-long)
C: 82, 0: Line too long (116/100) (line-too-long)
C: 83, 0: Line too long (102/100) (line-too-long)
C:  1, 0: Invalid module name "asciiDrawings" (invalid-name)
C:  1, 0: Missing module docstring (missing-docstring)
C:  5, 0: Missing function docstring (missing-docstring)
C: 72, 0: Missing function docstring (missing-docstring)
C: 86, 0: Missing function docstring (missing-docstring)
```

Module Assignment3.new.Block

```
C:  1, 0: Missing module docstring (missing-docstring)
C: 12, 8: Invalid attribute name "enemy2Upper" (invalid-name)
C: 13, 8: Invalid attribute name "enemy2Lower" (invalid-name)
C:  8, 8: Invalid attribute name "bombermanUpper" (invalid-name)
C:  9, 8: Invalid attribute name "bombermanLower" (invalid-name)
C: 14, 8: Invalid attribute name "bombBlast" (invalid-name)
C: 10, 8: Invalid attribute name "enemy1Upper" (invalid-name)
C: 11, 8: Invalid attribute name "enemy1Lower" (invalid-name)
```

```
C:  2, 0: Missing class docstring (missing-docstring)
R:  2, 0: Too many instance attributes (10/7) (too-many-instance-attributes)
C: 16, 4: Invalid method name "getBlock" (invalid-name)
C: 16, 4: Invalid argument name "a" (invalid-name)
C: 16, 4: Invalid argument name "b" (invalid-name)
C: 16, 4: Missing method docstring (missing-docstring)
R: 16, 4: Too many return statements (12/6) (too-many-return-statements)
C: 54, 4: Invalid method name "getColor" (invalid-name)
C: 54, 4: Invalid argument name "a" (invalid-name)
C: 54, 4: Missing method docstring (missing-docstring)
R: 54, 4: Method could be a function (no-self-use)
R: 54, 4: Too many return statements (9/6) (too-many-return-statements)
```

Module Assignment3.new.Board

```
C: 91, 0: Line too long (105/100) (line-too-long)
C:112, 0: Wrong continued indentation (remove 1 space).
                                ][game.bomb.x + dirx[i]] = 'x'
                                |^ (bad-continuation)
C:114, 0: Line too long (101/100) (line-too-long)
C:118, 0: Line too long (103/100) (line-too-long)
C:122, 0: Line too long (113/100) (line-too-long)
C:124, 0: Line too long (105/100) (line-too-long)
C:127, 0: Line too long (111/100) (line-too-long)
C:132, 0: Line too long (107/100) (line-too-long)
C:135, 0: Line too long (111/100) (line-too-long)
C:140, 0: Line too long (107/100) (line-too-long)
C:145, 0: Wrong continued indentation (remove 1 space).
                                    ][game.bomb.x + 2 * dirx[i]] = 'x'
                                    |^ (bad-continuation)
C:155, 0: Wrong continued indentation (remove 1 space).
                                ][game.bomb.x + dirx[i]] = ' '
                                |^ (bad-continuation)
C:157, 0: Line too long (101/100) (line-too-long)
C:159, 0: Wrong continued indentation (remove 1 space).
                                    ][game.bomb.x + 2 * dirx[i]] = ' '
                                    |^ (bad-continuation)
C:226, 0: Line too long (112/100) (line-too-long)
C:240, 0: Line too long (112/100) (line-too-long)
C:  1, 0: Missing module docstring (missing-docstring)
E:  6, 0: Unable to import 'Block' (import-error)
E:  7, 0: Unable to import 'Person' (import-error)
C: 38, 8: Invalid attribute name "x" (invalid-name)
C: 39, 8: Invalid attribute name "y" (invalid-name)
C: 12, 0: Missing class docstring (missing-docstring)
C: 47, 4: Invalid method name "moveBomber" (invalid-name)
C: 47, 4: Missing method docstring (missing-docstring)
C: 48, 8: Invalid variable name "x" (invalid-name)
C: 49, 8: Invalid variable name "y" (invalid-name)
C: 64, 4: Invalid method name "updateBomb" (invalid-name)
C: 64, 4: Missing method docstring (missing-docstring)
W:163, 8: No exception type(s) specified (bare-except)
W: 66,12: Statement seems to have no effect (pointless-statement)
C: 82,16: Consider using enumerate instead of iterating with range and len
(consider-using-enumerate)
```

```
R: 65, 8: Too many nested blocks (7/5) (too-many-nested-blocks)
R: 65, 8: Too many nested blocks (7/5) (too-many-nested-blocks)
R: 65, 8: Too many nested blocks (8/5) (too-many-nested-blocks)
R: 65, 8: Too many nested blocks (8/5) (too-many-nested-blocks)
C:151,16: Consider using enumerate instead of iterating with range and len
(consider-using-enumerate)
R: 65, 8: Too many nested blocks (6/5) (too-many-nested-blocks)
R: 64, 4: Too many branches (31/12) (too-many-branches)
R: 64, 4: Too many statements (58/50) (too-many-statements)
C:166, 4: Invalid method name "updateEnemy" (invalid-name)
C:166, 4: Missing method docstring (missing-docstring)
C:173,16: Invalid variable name "x" (invalid-name)
C:174,16: Invalid variable name "y" (invalid-name)
R:166, 4: Too many branches (30/12) (too-many-branches)
R:166, 4: Too many statements (68/50) (too-many-statements)
C:251, 4: Missing method docstring (missing-docstring)
W:  1, 0: Unused import random (unused-import)
W:  2, 0: Unused import sys (unused-import)
W:  3, 0: Unused import os (unused-import)
W:  4, 0: Unused import time (unused-import)
W:  5, 0: Unused import copy (unused-import)
W:  7, 0: Unused Enemy1 imported from Person (unused-import)
W:  7, 0: Unused Enemy2 imported from Person (unused-import)
C:  8, 0: standard import "from random import randint" comes before "from Block
import Block" (wrong-import-order)
C:  8, 0: Imports from package random are not grouped (ungrouped-imports)
```

Module Assignment3.new.Bomb

```
W:  4, 0: Found indentation with tabs instead of spaces (mixed-indentation)
C:  4, 0: Exactly one space required after comma
    def __init__(self,x,y,time):
                ^ (bad-whitespace)
C:  4, 0: Exactly one space required after comma
    def __init__(self,x,y,time):
                  ^ (bad-whitespace)
C:  4, 0: Exactly one space required after comma
    def __init__(self,x,y,time):
                     ^ (bad-whitespace)
W:  5, 0: Found indentation with tabs instead of spaces (mixed-indentation)
W:  6, 0: Found indentation with tabs instead of spaces (mixed-indentation)
W:  7, 0: Found indentation with tabs instead of spaces (mixed-indentation)
W:  9, 0: Found indentation with tabs instead of spaces (mixed-indentation)
C: 10, 0: Final newline missing (missing-final-newline)
W: 10, 0: Found indentation with tabs instead of spaces (mixed-indentation)
C:  1, 0: Missing module docstring (missing-docstring)
E:  1, 0: Unable to import 'Block' (import-error)
C:  5, 2: Invalid attribute name "x" (invalid-name)
C:  6, 2: Invalid attribute name "y" (invalid-name)
C:  3, 0: Missing class docstring (missing-docstring)
C:  9, 1: Missing method docstring (missing-docstring)
R:  3, 0: Too few public methods (1/2) (too-few-public-methods)
W:  1, 0: Unused Block imported from Block (unused-import)
```

Module Assignment3.new.game

```
C:148, 0: Unnecessary parens after 'while' keyword (superfluous-parens)
C:153, 0: Unnecessary parens after 'if' keyword (superfluous-parens)
C:  1, 0: Missing module docstring (missing-docstring)
E:  1, 0: Unable to import 'Board' (import-error)
E:  2, 0: Unable to import 'Bomb' (import-error)
E:  3, 0: Unable to import 'asciiDrawings' (import-error)
C: 21, 8: Invalid constant name "getch" (invalid-name)
C: 23, 4: Missing function docstring (missing-docstring)
C: 24, 8: Invalid variable name "fd" (invalid-name)
C: 28,12: Invalid variable name "ch" (invalid-name)
C: 34, 0: Invalid function name "alarmHandler" (invalid-name)
C: 34, 0: Missing function docstring (missing-docstring)
W: 34,17: Unused argument 'signum' (unused-argument)
W: 34,25: Unused argument 'frame' (unused-argument)
C: 38, 0: Missing class docstring (missing-docstring)
C: 45, 8: Invalid attribute name "x" (invalid-name)
C: 50, 8: Invalid attribute name "enemiesKilled" (invalid-name)
C: 46, 8: Invalid attribute name "y" (invalid-name)
C: 52, 8: Invalid attribute name "GAMEOVER" (invalid-name)
C: 42, 0: Missing class docstring (missing-docstring)
R: 42, 0: Too many instance attributes (8/7) (too-many-instance-attributes)
C: 54, 4: Missing method docstring (missing-docstring)
C: 70,12: Invalid variable name "x" (invalid-name)
C: 71,12: Invalid variable name "y" (invalid-name)
C: 85,19: Comparison to None should be 'expr is None' (singleton-comparison)
C: 97, 4: Missing method docstring (missing-docstring)
W: 99, 8: Redefining name 'points' from outer scope (line 142)
(redefined-outer-name)
C:104, 4: Invalid method name "gameOver" (invalid-name)
C:104, 4: Missing method docstring (missing-docstring)
W:112, 8: No exception type(s) specified (bare-except)
C:115, 4: Invalid method name "gameWon" (invalid-name)
C:115, 4: Missing method docstring (missing-docstring)
R:115, 4: Method could be a function (no-self-use)
C:121, 4: Missing method docstring (missing-docstring)
C:126, 8: Invalid variable name "enemyCount" (invalid-name)
C:129,16: Invalid variable name "enemyCount" (invalid-name)
C:142, 4: Invalid constant name "points" (invalid-name)
C:143, 4: Invalid constant name "lives" (invalid-name)
C:144, 4: Invalid constant name "levels" (invalid-name)
C:147, 8: Invalid constant name "game" (invalid-name)
C:154,16: Invalid constant name "levels" (invalid-name)
C:158,40: Comparison to True should be just 'expr' or 'expr is True'
(singleton-comparison)
W:162,12: No exception type(s) specified (bare-except)
C:161,16: Invalid constant name "points" (invalid-name)
C:164,11: Comparison to True should be just 'expr' or 'expr is True'
(singleton-comparison)
C:165,12: Invalid constant name "lives" (invalid-name)
W:  5, 0: Unused import random (unused-import)
W:  9, 0: Unused import copy (unused-import)
C:  5, 0: standard import "import random" comes before "from Board import Board"
(wrong-import-order)
C:  6, 0: standard import "import sys" comes before "from Board import Board"
```

```
  (wrong-import-order)
 C:  7, 0: standard import "import os" comes before "from Board import Board"
 (wrong-import-order)
 C:  8, 0: standard import "import time" comes before "from Board import Board"
 (wrong-import-order)
 C:  9, 0: standard import "import copy" comes before "from Board import Board"
 (wrong-import-order)
 C: 10, 0: standard import "import signal" comes before "from Board import Board"
 (wrong-import-order)
```

Module Assignment3.new.Person

```
 C: 46, 0: Unnecessary parens after 'while' keyword (superfluous-parens)
 C:  1, 0: Missing module docstring (missing-docstring)
 C: 12, 8: Invalid attribute name "y" (invalid-name)
 C: 11, 8: Invalid attribute name "x" (invalid-name)
 C:  9, 8: Invalid attribute name "upperPart" (invalid-name)
 C: 10, 8: Invalid attribute name "lowerPart" (invalid-name)
 C:  5, 0: Missing class docstring (missing-docstring)
 R:  7, 4: Too many arguments (6/5) (too-many-arguments)
 R:  5, 0: Too few public methods (0/2) (too-few-public-methods)
 C: 15, 0: Missing class docstring (missing-docstring)
 W: 18, 8: __init__ method from a non direct base class 'Person' is called
 (non-parent-init-called)
 R: 15, 0: Too few public methods (0/2) (too-few-public-methods)
 C: 21, 0: Missing class docstring (missing-docstring)
 W: 24, 8: __init__ method from a non direct base class 'Person' is called
 (non-parent-init-called)
 R: 21, 0: Too few public methods (0/2) (too-few-public-methods)
 C: 28, 0: Missing class docstring (missing-docstring)
 W: 31, 8: __init__ method from a non direct base class 'Person' is called
 (non-parent-init-called)
 R: 28, 0: Too few public methods (0/2) (too-few-public-methods)
 C: 40, 0: Invalid function name "EnemyArray" (invalid-name)
 C: 40, 0: Invalid argument name "x" (invalid-name)
 C: 40, 0: Invalid argument name "y" (invalid-name)
 C: 40, 0: Missing function docstring (missing-docstring)
 C: 44, 8: Invalid variable name "a" (invalid-name)
 C: 45, 8: Invalid variable name "b" (invalid-name)
 C: 47,12: Invalid variable name "a" (invalid-name)
 C: 48,12: Invalid variable name "b" (invalid-name)
 R:  1, 0: Similar lines in 2 files
```

Report

467 statements analysed.

Statistics by type

```
 +---------+-------+-----------+-----------+------------+---------+
 |type     |number |old number |difference |%documented |%badname |
```

```
+========+======+=========+==========+==========+=========+
|module  |7     |NC       |NC        |14.29     |14.29    |
+--------+------+---------+----------+----------+---------+
|class   |9     |NC       |NC        |0.00      |0.00     |
+--------+------+---------+----------+----------+---------+
|method  |20    |NC       |NC        |40.00     |35.00    |
+--------+------+---------+----------+----------+---------+
|function|6     |NC       |NC        |0.00      |33.33    |
+--------+------+---------+----------+----------+---------+
```

External dependencies

```
termcolor (Assignment3.new.asciiDrawings,Assignment3.new.Board,Assignment3.new.game)
```

Raw metrics

```
+----------+-------+------+---------+-----------+
|type      |number |%     |previous |difference |
+==========+=======+======+=========+===========+
|code      |509    |74.20 |NC       |NC         |
+----------+-------+------+---------+-----------+
|docstring |27     |3.94  |NC       |NC         |
+----------+-------+------+---------+-----------+
|comment   |10     |1.46  |NC       |NC         |
+----------+-------+------+---------+-----------+
|empty     |140    |20.41 |NC       |NC         |
+----------+-------+------+---------+-----------+
```

Duplication

```
+-----------------------+------+---------+-----------+ | |now |previous |difference |
+=======================+======+=========+===========+ |nb duplicated lines |5 |NC |NC | +-----------------------+------+---------+-----------+ |percent duplicated lines |0.744 |NC |NC |
+-----------------------+------+---------+-----------+
```

Messages by category

```
+-----------+-------+---------+-----------+ |type |number |previous |difference |
+===========+=======+=========+===========+ |convention |136 |NC |NC |
+-----------+-------+---------+-----------+ |refactor |22 |NC |NC | +-----------+-------+---------+-----------+
|warning |26 |NC |NC | +-----------+-------+---------+-----------+ |error |6 |NC |NC |
+-----------+-------+---------+-----------+
```

% errors / warnings by module

```
+---------------------------+------+--------+---------+-----------+ |module |error |warning |refactor
```

|convention |
+===========================+======+========+========+==========+
|Assignment3.new.game |50.00 |26.92 |9.09 |30.88 |
+---------------------------+------+--------+--------+----------+ |Assignment3.new.Board |33.33 |34.62 |40.91 |25.74 | +---------------------------+------+--------+--------+----------+ |Assignment3.new.Bomb |16.67 |26.92 |4.55 |6.62 | +---------------------------+------+--------+--------+----------+ |Assignment3.new.Person |0.00 |11.54 |27.27 |13.24 |
+---------------------------+------+--------+--------+----------+ |Assignment3.new.Block |0.00 |0.00 |18.18 |11.76 | +---------------------------+------+--------+--------+----------+ |Assignment3.new.asciiDrawings |0.00 |0.00 |0.00 |11.76 | +---------------------------+------+--------+--------+----------+

Messages

+---------------------------+-----------+ |message id |occurrences |
+===========================+===========+ |invalid-name |56 |
+---------------------------+-----------+ |missing-docstring |33 | +---------------------------+-----------+ |line-too-long |23 | +---------------------------+-----------+ |unused-import |10 |
+---------------------------+-----------+ |wrong-import-order |7 | +---------------------------+-----------+ |mixed-indentation |6 | +---------------------------+-----------+ |import-error |6 |
+---------------------------+-----------+ |too-many-nested-blocks |5 | +---------------------------+-----------+ |too-few-public-methods |5 | +---------------------------+-----------+ |bad-continuation |4 |
+---------------------------+-----------+ |superfluous-parens |3 | +---------------------------+-----------+ |singleton-comparison |3 | +---------------------------+-----------+ |non-parent-init-called |3 |
+---------------------------+-----------+ |bare-except |3 | +---------------------------+-----------+ |bad-whitespace |3 | +---------------------------+-----------+ |unused-argument |2 |
+---------------------------+-----------+ |too-many-statements |2 | +---------------------------+-----------+ |too-many-return-statements |2 | +---------------------------+-----------+ |too-many-instance-attributes |2 | +---------------------------+-----------+ |too-many-branches |2 | +---------------------------+-----------+ |no-self-use |2 | +---------------------------+-----------+ |consider-using-enumerate |2 |
+---------------------------+-----------+ |ungrouped-imports |1 | +---------------------------+-----------+ |too-many-arguments |1 | +---------------------------+-----------+ |redefined-outer-name |1 |
+---------------------------+-----------+ |pointless-statement |1 | +---------------------------+-----------+ |missing-final-newline |1 | +---------------------------+-----------+ |duplicate-code |1 |
+---------------------------+-----------+

Global evaluation

Your code has been rated at 5.42/10