

```

1  """
2  CS241 Checkpoint 5A
3  Written by Chad Macbeth
4  """
5
6  """
7  File: check05a.py
8
9  To this file you need to add:
10
11  A Ship class with member variables: x, y, dx, dy
12  It should have two simple method: advance and draw
13
14  Then to the provided Game class, add calls to your draw
15  and advance.
16
17  You should not need to modify the main function.
18  """
19
20  import random
21
22
23  class Ship:
24      """ Initialize the ship object with default values
25      def __init__(self):
26          self.x = 0
27          self.y = 0
28          self.dx = 0
29          self.dy = 0
30
31      """ Draw the ship (show coordinates on the screen)
32      def draw(self):
33          print("Drawing ship at ({}, {})".format(self.x, self.y))
34
35      """ Advance the ship for 1 frame based on dx and dy
36      def advance(self):
37          self.x += self.dx
38          self.y += self.dy
39
40
41  class Game:
42      def __init__(self, dx, dy):
43          self.ship = Ship()
44
45          # Set the ship's initial velocity
46          self.ship.dx = dx
47          self.ship.dy = dy
48
49      def on_draw(self):
50          self.ship.draw()
51
52
53      def update(self):
54          self.ship.advance()
55
56
57
58  def main():
59      """
60      The main function sets up the game class and calls its
61      methods repeatedly, just like will happen in actual games.
62
63      You should not need to change anything here:
64      """
65
66      seed = input("Enter a random seed: ")

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```
67     random.seed(seed)
68
69     dx = random.randint(-4, 4)
70     dy = random.randint(-4, 4)
71
72     print("Starting the ship with velocity ({}, {})".format(dx, dy))
73
74     game = Game(dx, dy)
75
76     for i in range(20):
77         game.update()
78         game.on_draw()
79
80 if __name__ == "__main__":
81     main()
82
```