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1  """
2  CS241 Checkpoint 6A
3  Written by Chad Macbeth
4  """
5
6  ### Represents any book
7  class Book:
8
9      ### Initialize a book object
10     def __init__(self):
11         self.title = ""
12         self.author = ""
13         self.publication_year = 0
14
15     ### Get book data from user
16     def prompt_book_info(self):
17         self.title = input("Title: ")
18         self.author = input("Author: ")
19         self.publication_year = int(input("Publication Year: "))
20
21     ### Display book data
22     def display_book_info(self):
23         print("{} ({{}}) by {}".format(self.title, self.publication_year, self.author))
24
25     ### TextBook IS-A Book. This means that the TextBook will have all the same
26     ### data and functions that exist in the Book Class. The goal here is reuse!
27     class TextBook(Book):
28
29         ### Initialize a TextBook object
30         def __init__(self):
31             super().__init__() # When you do inheritance, the first thing your __init__
32                                # function should do is call the __init__ function in the
33                                # base class. The super() function is used to call functions
34                                # in the base class
35
36             self.subject = "" # After initializing all the data in the Book class, we can
37                                # now initialize data unique to the TextBook class
38
39         ### Get Textbook specific information from the user
40         def prompt_subject(self):
41             self.subject = input("Subject: ")
42
43         ### Display Textbook specific information
44         def display_subject(self):
45             print("Subject: {}".format(self.subject))
46
47     ### PictureBook IS-A Book. It also has illustrator information.
48     class PictureBook(Book):
49
50         ### Initialize a PictureBook object
51         def __init__(self):
52             super().__init__()
53             self.illustrator = ""
54
55         ### Get Picturebook specific information from the user
56         def prompt_illustrator(self):
57             self.illustrator = input("Illustrator: ")
58
59         ### Display Picturebook specific information
60         def display_illustrator(self):
61             print("Illustrated by {}".format(self.illustrator))
62
63     ### Test the classes created above
64     def main():
65         book = Book()
66         book.prompt_book_info()

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67     print()
68     book.display_book_info()
69     print()
70
71     text = TextBook()
72     text.prompt_book_info()
73     text.prompt_subject()
74     print()
75     text.display_book_info()
76     text.display_subject()
77     print()
78
79     picture = PictureBook()
80     picture.prompt_book_info()
81     picture.prompt_illustrator() # If you tried to do text.prompt_illustrator()
82                                # it would not work. TextBook objects don't have
83                                # a prompt_illustrator function.
84     print()
85     picture.display_book_info()
86     picture.display_illustrator()
87
88
89 if __name__ == "__main__":
90     main()
91
```