

مکتب شریف

اولین بوتکمپ آموزشی - استخدامی ایران



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مکتب ۵۱





Meimanat has some books, podcasts and audiobooks on her phone. As studying something new instead of surfing the net is one of her 1400 resolutions, she needs a program to list everything in one place. Moreover, she has to give assignments to maktab "karvands" to ensure they have learned OOP inside and out. So here's what we want:

Question 1 : personal bookshelf

First of all, we have a list of books to add. So:

A) create a book class with attributes and methods:

attributes:

- title
- author(s)
- publish_year
- pages (number of pages)
- Language
- price

methods:

- read(pages):
 - ✓ to keep track of readed pages. update readen pages in this method ad print in this format:
 - ✓ Example : "you have read x more pages from book_name. There are y pages left"

✓ **Note: you can not read more than book's pages. Print a comment about completing the book whenever needed.**

- `print(book):`
 - ✓ `override __str__` method to print all book information
- `get_status():`
 - ✓ based on number of readen pages, return 3 statues:
 - 1- "unread" (no pages has been read yet)
 - 2- "reading" (reading the book)
 - 3- "finished" (all pages has been read)

B) write a function to get data from input and make a book instance from that information And add books to the bookshelf

Test cases:

✓ *create 3 books*

1)

Title : No Friend But the Mountains
author(s) : Behrouz Boochani
Publish_year: 2018
pages (number of pages):374
Language: English
Price : 10 \$

2)

Title : The Black Swan
author(s) : Abbas Maroufi
Publish_year: 2007
pages (number of pages):280
Language: Persian
Price : 20 \$

3)

Title : Symphony of the Dead

author(s) : Behrouz Boochani

Publish_year: 2018

pages (number of pages):374

Language: English

Price : 126 \$

✓ print all books

read from book 1,3

read from book 3

get status of 1

get status of 2

Question 2: Create different classes (using inheritance wherever needed) for other publication types listed in below table:

Note: listen method is just like the read method, but based on time.

media type	features	methods
book	title author(s) publish_year pages language price	__str__ read get_status
magazine	title author(s) publish_year pages language price issue	__str__ read get_status
Podcast episode	title speaker publish_year time language price	__str__ listen get_status
audiobook	title speaker author publish_year pages book_language audio_language time price	__str__ listen get_status

A) In order to add other media types to the shelf, you need to update get_data function. You have to define media type first, then enter information to create it.

Add samples to shelf in a loop, until '**Quit**' is typed.

✓ Create a magazine:

title:Bukhara

author(s):[Ali Dehbashi,Darioush Ashoori]

publish_year:2020

Pages: 768

language:Persian

price:55

Issue:140

✓ Create a podcast:

title: Ravaaq

speaker:Farzin Ranjbar

publish_year:2020

time : 50(min)

language:Persian

Price: 0

✓ Create an audiobook:

title:The Black Swan

speaker: Ali Bandari

author:Nassim Nicholas Taleb

publish_year:2020

pages:400

time:62

book_language: English

audio_language: Persian

Price:0

B) Print all shelf items.

C) Let's define "progress" as percent of (pages/time) which has been (read/listened) for each media. For example, if 20 pages of a 100 pages book is read, progress is 20%.

D) Write a function which sorts all shelf items(descending) based on progress and print their {media type,name,progress}

E) Print all items sorted

Note: This shelf is personal and we don't consider multiple users.

نکات

- مهلت ارسال تمرین تا پایان روز جمعه ۰۰/۱/۱۹ است. پاسخ تمرین را در کارتابل آموزشی خود ارسال کنید.
- نام فایل و ایمیل ارسالی خود را به این صورت قرار دهید: Name_hw1_maktab51 به عنوان مثال Mohammad_Ali_Kargar_hw1_maktab48
- در صورت لزوم یک فایل word به عنوان توضیح در کنار کدهای خود قرار دهید.
- در صورتی که تمرین شامل چند فایل و فولدر می باشد حتماً آن ها را قالب یک فایل فشرده شده تجميع کنید.
- در صورتی که سوالی دارید در گروه تلگرامی بپرسید.