HÖGSKOLAN
DALARNA

Python
Project Report
on
Final Assignment

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Introduction:

For developing Mini Project in Object Oriented Language, I have chosen Python. Python is a High-Level Programming Language. Python can be used for developing Desktop GUI Applications, Websites and Web Applications. It is designed to be easy to read and easy to implement. Python is an open source platform for any type of users. It supports modules and packages which helps the user with its flexibility, variety of use and code re-usability.

I have been built to this project with sufficient knowledge of the subject through the classes and with the assignments which have been assigned. They we some obstacles at some points but refereeing to the textbook help me to clear them like creating the Menu and using Pickle. And I am learnt few more things like using the “F’strings” for formatting the strings. And also, I have used classes, instances and functions in my project.

I have developed my mini project using two different types of classes which are Bakery_Item and User_Interface and a function which has my Menu, which creates an instance for the menu options. Also, I have imported Date packages from the library. I have developed my Menu function with respective chapter 5 from the textbook.

Description about project:

In this project we are going to create a Bakery where it has some products and we would be keeping our eye on the Bakery.

My project consists of two different classes they are: **Bakery_Item** and **User_Interface** which has a menu with in it. From now, I would be explaining the uses and properties of the classes and methods.

Bakery_Item:

My Class Bakery_Item used to create the item with properties in my Bakery.

My Bakery_Item has a single method, "**__init__**" with 5 different arguments rather than self. They are name, note, packing, value and units, where the user would be giving the values to those arguments through input function. In the class we also have date and day function which would be used to display the baked date of the product and how old the product is.

The Properties of the arguments are:

- Name = Name of the item.
- Note = Note for the item.
- Packing = To know the status of the packing like broken or unbroken.
- Value = Price or Value of the Item.
- Prepared = Used to calculate the age of item (No of days).
- Produced = Used to print the date and time of the item baked.
- Unit = Used to describe about the item who it is been measure like Kilo/Lit/Pack.

User Interface:

The user_interface class has multiple functions which acts as interaction between two classes. When we try to create new item with using its function it calls the Bakery_Item class to create an new item, through calling __init__ method of the Bakery_Item class, with the arguments assigned to the method with its properties.

User_Interface class has an __init__ method has been defined as menu_stock which acts like an dictionary where the keys are defined in the bakery_items class like name, note, packing, value and unit.

Methods used in the User_Interface class:

- __init__: Creates instance which has the menu_stock, which is meant to be an empty dictionary.
- create_an_item: This is used to create an new item to the empty dictionary, with the bakery_item argument which will be assigned to the name. All the other properties will be added by the user. It also checks the input which has been given by the user, like for the packing its check whether the user has given ‘broken’ or ‘unbroken’. If the user gives and different input rather than them, it would be giving an error. This is useful to calculate the unbroken percentage items in the Bakery. For the value it checks whether the user has given number as the input as it would be useful to calculate the value of the bakery and the unit. It also checks if the item is already in the store, if yes it will be creating the new item as item1
- read_an_item: This is used to show the items in the bakery using the print functions. This even shows when the item has been created with the date of the item created and how old the item is.
- update_an_item: This is used to update the information of the item which is been already present in the bakery. For that, it asks the item name which needs to be updated, if it could find the item it would be displaying that the item is not been found. Or if it finds the item in the bakery it would be collecting the information for the note, packing and value. For updating the information for packing, value and units, it would be validating the information which the user has entered. For packing it would be checking whether the user has entered the correct state of the item like ‘broken’ or ‘unbroken’. For the value it would be checking whether the user has entered a number. For each incorrect information it would be giving an error to the user to enter the correct information.
- delete_an_item: This is used to delete an item in the bakery. It accpects bakery_item name to find the item in the bakery and deletes it.
- show_items_count_in_bakery: This is used for counting the items in the bakery.
- total_sum_of_items: This is used to calculate the sum of the value of all the items in the bakery.
- items_with_unbroken_packing: This is used to calculate the percentage of the items in the bakery has the packing status as unbroken.
- reads_items_from_the_file: It is used to read the items from the file.
- write_items_to_the_file:It is used to write all the bakery items to the file with pickle package
- exit_from_bakery: This is for exiting the bakery.
- User_Interface_menu: It is used to start the menu program. It would be running with IF/ELIF/ELSE loops. At the start, the user is shown the menu

options for various functions in the bakery. Where one option would be giving for exiting the bakery. Like if the user presses 1 he would be able to create an item in the bakery.

User Guide:

About User Interface:

The program has been saved with .py extension which would be easy way to run the program from the command shell.

Executing User Interface:

You can start the program with the below command in the CMD:
python

Options for User Interface:

After the file executed. It would be showing you the menu options from 1 to 9 and 0. You would be asked to enter your choice which would be useful to perform specific tasks.

1. Add an Bakery Item
   It will be Adding an New Item to the Bakery
2. Reads an Bakery Item
   It is used to read an Item in the Bakery
3. Update an Bakery Item
   It used to update an Existing Item in the Bakery
4. Delete an Bakery Item
   It is used to Delete an Item in the Bakery
5. Count the Items in Bakery
   It is used to count the number of Items in the Bakery
6. Count the Value of Items in Bakery
   It is used to sum the value of all the items in the Bakery
7. Count the percentage of Unbroken Items in Bakery
   It is used to calculate the Percentage of the no of Unbroken Items in Bakery
8. Read the Items from the File
   For Example, I have created a file(bala.pkl) with some list of items which can we exported to read the items from that file.
9. Write the Items to the File
   It is used to create a file with the preferred name to add all the existing items to that file. It can
10. Exit the Bakery
    Used to Exit the Bakery.

Reference:

- Tony Gaddis, Starting Out with Python, Global Edition, 4/E (2018)
- https://www.w3schools.com/python/default.asp
- https://realpython.com/python-f-strings/
- stackoverflow