System Requirements Specification Index

For

Python Basics and NumPy, Pandas

1.0

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Use case on Python basics and NumPy and Pandas

Usecase 1 (pythonbasics.py)

1)Write a Python program to display the hospital information, including the name, total doctors, consultation fee, emergency availability, and available departments.

The display_hospital_info() method outputs the following details:

- Display hospital information including (total doctors , Consultation Fee Emergency Available Total Departments Available Departments and Patient Records)
- Return and print the information in a formatted string.

2)Write a Python program to display a list of patient records, including their name, age, disease, and attending doctor

- The display_patients() method will loop through the patients dictionary.
- For each patient, print the name, age, disease, and assigned doctor.
- Return and display the patient records in the specified format.

3)Write a Python program to check whether a patient is in the emergency list or not.

- Take the patient's name as input in main().
- Pass the name to the check_emergency() method.
- If the patient is in the emergency_patients set, print hint "use if else "

Usecase 2 (Student Grades.py)

1)Write a Python program that adds five default student records to a text file (grades.txt). Each record should contain a student's ID, name, subject, and grade.

- The add_default_students() method is responsible for adding five default student records to the file grades.txt.
- If the file doesn't exist, it will be created, and the existing content (if any) will be overwritten with these records.

Format provided

[Student Grades: ID | Name | Subject | Grade]

2)Write a Python program that reads and displays student records from the grades.txt file, including student ID, name, subject, and grade.

- The user needs to view the records from the grade.txt file .

Format provided

[Student Grades: ID | Name | Subject | Grade]

Usecase 3 (ecommerce.py)

1) Write a Python program that displays the details of items in the shopping cart, including their price, quantity, and total price for each item.

- The display_cart() function takes the predefined cart items and displays them in a structured tabular format using Pandas DataFrame.
- It adds an additional column, Total Price, which is the product of Price and Quantity for each item.

2)Write a Python program that performs an analysis of the item prices in the shopping cart, including the minimum price, maximum price, average price, and standard deviation of prices.

- The price_analysis() function performs basic statistical analysis on the prices using NumPy:
- Minimum price: The lowest price in the cart.
- Maximum price: The highest price in the cart.
- Average price: The mean of all the item prices.
- Standard deviation: A measure of the spread of the prices.
- These values are then displayed in a readable format.

Execution Steps to Follow:

1. All actions like build, compile, running application, running test cases will be through Command Terminal.

2. To open the command terminal the test takers, need to go to Application menu(Three horizontal lines at left top) -> Terminal -> New Terminal

3. This editor Auto Saves the code

4. If you want to exit(logout) and continue the coding later anytime (using Save & Exit option on Assessment Landing Page) then you need to use **CTRL+Shift+B** -command compulsorily on code IDE. This will push or save the updated contents in the internal git/repository. Else the code will not be available in the next login.

5. These are time bound assessments the timer would stop if you logout and while logging in back using the same credentials the timer would resume from the same time it was stopped from the previous logout.

6. To setup environment:

You can run the application without importing any packages

7. To launch application:

python3 ecommerce.py

python3 pythonbasics.py

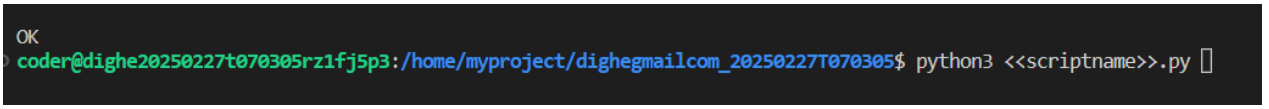
python3 StudentGrade.py

To run Test cases:

python3 -m unittest

8. You need to use **CTRL+Shift+B** - command compulsorily on code IDE, before final submission as well. This will push or save the updated contents in the internal git/repository, and will be used to evaluate the code quality.

Screen shot to run the program

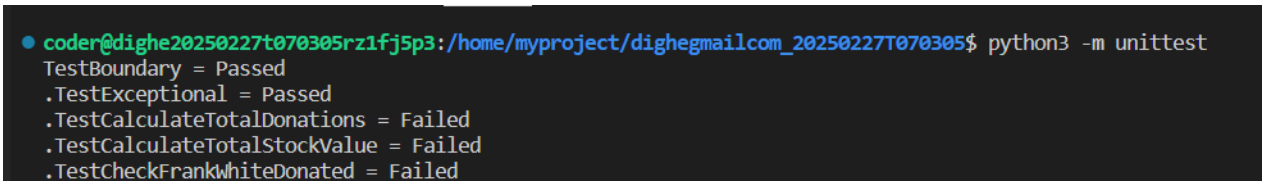


To run the application

python3 ecommerce.py

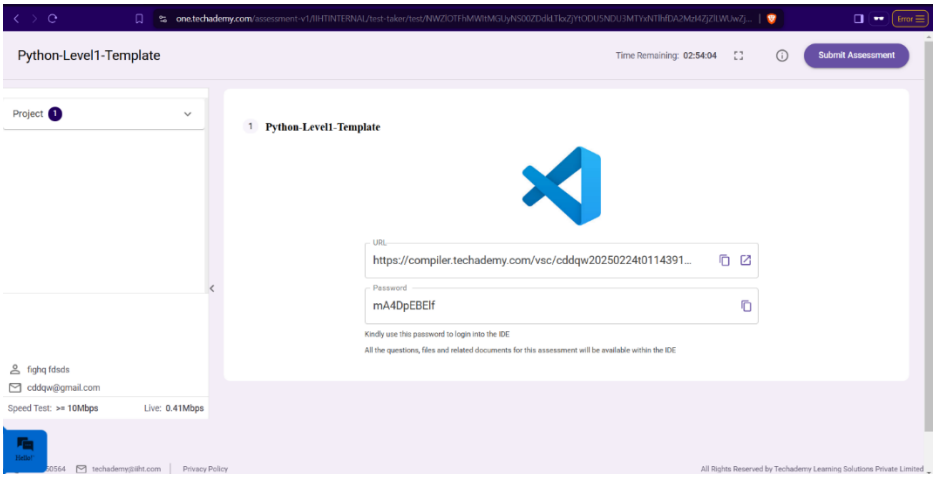
python3 pythonbasics.py

python3 StudentGrade.py



To run the testcase

- **python3 -m unittest**



- **Once you are done with development and ready with submission, you may navigate to the previous tab and submit the workspace. It is mandatory to click on “Submit Assessment” after you are done with code.**