Python Advanced Programming Practise

Topic 1: Tkinter-GUI /MySQL

1. Write a Python GUI program to add a button in your application using Tkinter module.
2. Write a Python GUI program to create two buttons exit and hello using Tkinter module
3. Write a Python GUI program to create a Combo box with three options using Tkinter module.
4. Write a Python GUI program to create a Check button widget using Tkinter module
5. Write a Python GUI program to create a Spin box widget using Tkinter module
6. Write a Python GUI program to create a Text widget using Tkinter module. Insert a string at the beginning then insert a string into the current text. Delete the first and last character of the text.
7. Write a Python GUI program to create three single line text-box to accept a value from the user using Tkinter module.
8. Write a Python GUI program to create three radio buttons widgets using Tkinter module.
9. Write a Python GUI program to create a Scrolled Text widgets using Tkinter module.

10. Write a Python GUI program to create a Progress bar widgets using Tkinter module.
11. Create a Tkinter GUI Interface to find the volume and TSA of a Rectangular Box
12. Create a Tkinter GUI Interface(form) to find the accept details of student (student name, course, institute, fees) and save the same into a CSV file with comma as delimiter)
13. Modify the above form accept multiple records and save them using a loop.
14. Create a Tree view using Tkinter to access data from a CSV file i.e., the details of the students stored using the above program.
15. Create and MySQL database with a name of your choice create a table student with the same data structure as in the above csv file.

16. Create a Tkinter interface to list the contents , buttons to add new contents, edit the existing contents remove the contents. provide combox boxes to accept course and institute .Include course name and institute name as per your choice

Topic 2: File Manipulation

1. Write a python program to count the number occurrences of a particular word in a text file ?
2. Write a python program to replace a word with another word ?

3. Write a program to accept the following data (student name, course , fees) from console , store them into a csv file ?
4. Write a program to access the student file and print a consolidated data report with appropriate headings in the console , also show additional fields i.e., GST as 14% of the fees, total fees as fees +GST ?
5. Write a program to create a class with the details of a patient. The details are: patient name, patient address, patient contact, patient complaint (i.e., fever, headache , back pain etc) ?
6. create a program to write the above class objects to a binary file and another program to read the respective objects. (Use pickle) ?
7. Write a program to find all the python files of a particular directory?
8. Write a python program to display all the image files (*.jpg,*.png, ... etc) of a directory?

Topic 3: OOPS

1. Write a Python program to create a class Vehicle with eating _capacity , fuel, wheels.

a. Use constructors to initialize the class

b. Write a method to return a dictionary returning the values

2. Create an abstract class Object3D with 2 abstract methods volume(), tsa()

a. Extend class Box to Object3D ,with length, breadth and height as data members , override volume() and tsa() methods of the base class.

Hint: Volume =lbh, TSA=2(lb+bh+lh)

b. Extend class Cylinder to Object3D ,with radius, height as data members , override volume() and tsa() methods of the base class.

Hint: Volume =IIr2h, TSA=2IIr(r + h).

3. Create a class Box ,with length, breadth and height as data members , volume() and tsa() as methods also implement operator overloading to add two Boxes , multiply and overload all comparison operators and string operator to return the all the attributes of the box as a single string.

4. Create a class "Number" , define static methods

1) to generate prime numbers between M and N , store them into a list

2) to generate Fibonacci series upto N terms , store into a tuple

3) to generate odd numbers , even numbers

4) reverse a number

5) check whether the number is a palindrome or not

6) program to check whether the number is a prime number or not ,

use static methods for all above programs

Note : static methods have only one run-time instance, it can be called directly using the class name , no need to define an object , python does not have

5. Create a class Employee with employee name, job, basic pay, age as data members define methods to calculate hra as 10% of basic , da as 25% of basic, gross pay sum of basic , hra and da. store the employee details into a list create a menu program to add employee, show employee report , remove employee, also write programs to save data to a csv file and retirve the data from the file. Write program with above class to retrieve sorted list of employees with respect to age and salary.

6. Create a class student with student name, marks in three subjects , max marks in each subject are 100 , define constructor to initialize the class , methods to calculate total , result and grade.

result- "Passed" if total >= 120 and if all 3 marks >=35 , otherwise "Failed" grade - for "Passed" students if total >=240 "Outstanding" , total < 240 and total>=180 then "Excellent" , if total < 180 and >=150 "Good", if total>= then "Average" , for "Failed" students no grade must be given.

use pickle class to store the data as object into a binary file , retrieve the data and print a consolidated student report, also write program to remove and replace the marks , stored in the file.