Q.1 Write a function in python to count the number of lines from a text file "story.txt" which is not starting with an alphabet "T".

Q.2 Write a python script that will read the integer values from a file, written one integer in a line. Display only the list of the prime integers. Develop a user define exception if no prime number found in the file.

Q.3 Write a python script that will write the name of students as a key and its value will be a list that contains age, course, semester, and marks. Now display the data of the student searched by the user. Handle user-defined exception if no such student exists.

Q. 4 A text file named "matter.txt" contains some text, which needs to be displayed such that every next character is separated by a symbol "#". Write a function definition for hash_display() in Python that would display the entire content of the file matter.txt in the desired format.

Example :
If the file matter.txt has the following content stored in it :
THE WORLD IS ROUND

The function hash_display() should display the following content :
T#H#E# #W#O#R#L#D# #I#S# #R#O#U#N#D#

Q.5 Write a program that performs the following tasks:
   a) Read few integers from the file and store them in a list.
   b) Define a function that finds the maximum amongst two.
   c) Perform the summation of all the numbers of the file.
   d) Write all the numbers along with the summation into another file.
   e) Handle the exception for file operations

Q.7 Create a class in python that will store the details of a Student. The attributes of the class are Roll_no, Name, Contact_no, DoB, Gender, list _of _marks. The methods in the class will be the getter and setter functions and the get_age() method which will calculate the age of the Student, search_student(), calculate_average(), calculate_SPI(). Create a package that will calculate the average of the value passed and then call this functionality in calculate_average(). Roll_no should be unique for the students.

Store these data in the file called Student.txt.

Define a function that will read the data from Student.txt and will write the data of the pass Students to the file Pass.txt. [Use os module to find the path of the file and create the user-defined exception and built-in exceptions where ever required.]

Q.8 a)Write a class Accounts in python that have attributes like holder_name, date_opening, balance, account_no, monthly_Interest_Rates. The class should have methods like deposit(), withdraw(), get_balance(), set_balance(),get_Monthly_Interest(), add_Interest(). This class should

be inherited by SavingsAccount class and CurrentAccount class. The Savings accounts do not maintain the minimum balance while Current accounts do maintain the minimum balance. Keep the attributes accordingly in both the subclasses.

b) Write a menu-driven program for the above-stated application, where the menu should be like
I) Create Account
II) Deposit
III)Withdrawl
IV)Check Balance
V) Check Monthly Interest
VI)Exit

Note the following points:
i) The balance should have a default value of 1000 for CurrentAccounts.
ii) The monthly interest rates of SavingsAccount should be greater than current account interest rates.
iii) The Create Account option will ask the user which type of account to create "Savings" or "Current".
iv) Generate the User-Defined Exceptions and built-in Exceptions where ever required.
v) Should have __init__ methods in super and subclasses.

Q.9 Write a python script to accept a file name from the user. If the file does not exist or if it is a directory, a custom exception must be raised and handled. if it is an existing file perform the following operation: Write programs to calculate:

    a. the number of lines in a file
    b. the number of words in a file
    c. the number of characters in a file
    d. the average number of characters per line in a file
    e. the average number of words per line in a file
    f. the average number of characters per word in a file

Q.10 Write a python script to simulate ATM. Assume the details of the accounts like username, PIN, and the balance is stored in the file "myAccounts.dat".
The user should be first asked for the username. If the username is valid, he should be prompted for the password otherwise InvalidUserException should be raised and handled.
If the username is found, the password should be asked. For invalid passwords, it should raise and handle InValidPasswordException. On a successful match, the user should be repetitively given the menu of balance inquiry, withdraw, deposit, and quit. The operation should be performed. And the program should ask for the next operation to be performed. The program quits by giving an option of quit.

Q.11 Create a library management application in python that will keep the records for the books. It has attributes like BookId, BookName, AuthorName, and NoOfCopies. The book name should be characters only and the no of copies should be an integer value. Provide the menu as:
1) Add New Book
2) Issue
3) Deposit
4) Set no of Copies (default value it takes is 1 as NoOfCopies)
5) Search book by Author (Use regular expression)
6) Search book by name
Note:
1. Add the records as objects in the file by using pickle or shelve.

2. Raise exception when the book is out of stock while Issue

Q.12 A binary file "Book.dat" has a structure [BookNo, Book_Name, Author, Price].
i. Write a user-defined function createFile() to input data for a record and add to Book.dat.
ii. Write a function countRec(Author) in Python which accepts the Author name as a parameter and counts and return the number of books by the given Author is stored in the binary file "Book.dat"

Q.13 A binary file players.dat, containing records of following list format: [code, name, country, and total runs]

   i.   Write a python function that displays all records where the player name starts from 'A'

   ii.   Write a python function that accepts country as an argument and count and displays the number of players of that country.

   iii.   Write a python function that adds one record at the end of the file.

Q.14 Given a binary file game.dat, containing records of following list format: [game_name, participants]

Write a function in Python that would read contents from the file game.dat and creates a file named basket.dat copying only those records from game.dat where the game name is "Basket Ball"

Q.15 A binary file "STUDENT.DAT" has the structure (admission_number, Name, Percentage). Write a function count_rec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75. Also, display number of students scoring above 75%