PROGRAM FLOW

WRITING:

1. The program will first open a file “data_file.dat” and check the data for validity (for writing)
   Condition: if(!file_in){ //File not present or data not valid }

2. An **abstract class User** is created which has abstract methods createUser(), getUserName(), getUserType() and checkUserPassword(), along with data members userType, username, and userPassword to be passed into these methods, which will be defined in **concrete classes User and Faculty**.

3. Parallel to the above abstract class, an **interface QPaper** is created having data members **testName, testDate and an ArrayList** linking to the question, handled by **separate class Question**. The abstract class has methods **createQuestionPaper() [for inputting of questions by faculty] , startTest() [for accessing the created questions by the students during the test], checkPaper[for faculty to calculate marks]**

READING:

1. The program would now check if the end of file has already been reached, in order to end the test [as the questions have now finished]
   Condition: if(file_in.eof()){//Code to run **checkPaper()** method by faculty class]

2. While end of file is not reached, the questions are displayed on the students’ screen using **startTest()** method.
3. After the question gets ended or the student submits the QPaper, the program will call the end of file [eof()] method and thus the (1) condition is reached. The file is closed and saved, for it to be read for checking.