

Assignment 05

Fall 2023 PF (due: 24-12-23)

Consider a text file that stores the grades of students in the following format. A student may have enrolled exactly in three courses ITC, PF and DLD. The marks must be entered, and marks of an absent student must be a 0 in the file. Here you should be clear that following is only a format, not the complete data to process. Actual file may contain hundreds of such lines. The file is typed by a typist from handwritten data using some text editor and left several errors in it due to his negligence and lack of his proper understanding.

Roll No	Name	Crs	Md	Ss	Fn
BSEF09M001	Hammad Khan	ITC	22	21	31
BSEF09M001	Hammad Khan	PF	14	15	25
BSEF09M001	Hammad Khan	DLD	20	18	22
BSEF09M003	Younas Ahmad	ITC	30	AB	29
BSEF09M003	Younas Ahmad	PF	34	25	30
BSEF09M003	Younas Ahmad	DLD	10	15	10
BSEF09M005	Riffat Kaleem	ITC	33	20	33
BSEF09M005	Riffat Kaleem	PF	26	11	35
BSEF09M005	Riffat Kaleem DLD		30	24	38
BSEF09M012	Barkat Jan	ITC	25	18	34
BSEF09M012	Barkat Jan	PF	19		28
BSEF09M012	Barkat Jan	DLD	28	21	34
BITF09M002	Khawer Hayat	ITC	11	18	37
002Khawer	Hayat	PF	19	17	27
BITF09M002	Khawer Hayat	DLD	31	22	34
BITF09M003	Kishwar Hameed	ITC	24	20	33
BITF09M003	Kishwar Hameed	PF	28	24	37
BITF09M003	Kishwar Hameed	DLD	19	15	26
BITF09M010	Yasir Ubaid		18	20	31
BITF09M010	Yasir Ubaid	PF	25	21	34
BITF09M010	Yasir Ubaid DLD		29	22	33

Task 01: Write a program to read and validate records (one record is on one line, and first two lines are headers not data) in the file. If some errors are detected in a record, it should be saved in another file with the record number on a line and the record itself on its following line. In the above sample data file, some lines with errors are marked **red**. At the end, print on the screen, the count of the errored lines in file. The errors are improper spacing, alphabets appear in place of numbers, missing values, etc.

Task 02: Open error file in some text editor and correct the errors manually, leaving record number unchanged. Then write a program to update data in the original file using the updated error file. Do not overwrite all the records but only those which require updates. Later again validate the file using program built in task 01 and repeat the process till the grades file became error free.

Task 03: Using data in the error free grades file, generate a report (on screen) as follows.
Note that, the grades file records need to be sorted before the generation of the report, you can do sorting programmatically or manually through text editor.

University of the Punjab
College of Information Technology
Result Session : Spring 2010

Degree : BIT

Sr.No.	Roll No.	Student Name	ITC	PF	DLD	Total	%age	Grade
1	XXXXXXXXXX	YYYYYYYYYY ZYYYYYYYYY	73	80	69	222	74.0	B
2	XXXXXXXXXX	YYYYYYYYYY ZYYYYYYYYY	83	86	79	222	82.6	A-
3	XXXXXXXXXX	YYYYYYYYYY ZYYYYYYYYY	78	78	66	222	74.0	B
...								
BIT Degree Average:			74	81	66	236		

Degree : BSE

Sr.No.	Roll No.	Student Name	ITC	PF	DLD	Total	%age	Grade
1	XXXXXXXXXX	YYYYYYYYYY ZYYYYYYYYY	73	80	69	222	74.0	B
2	XXXXXXXXXX	YYYYYYYYYY ZYYYYYYYYY	83	86	79	222	82.6	A-
3	XXXXXXXXXX	YYYYYYYYYY ZYYYYYYYYY	78	78	66	222	74.0	B
...								
BSE Degree Average:			74	81	66	236		

...

Over All Average: 72 88 78 269

Percent Marks	Letter Grade	Grade Points
85 & above	A	4.00
80 - 84	A-	3.70
75 - 79	B+	3.30
70 - 74	B	3.00
65 - 69	B-	2.70
61 - 64	C+	2.30
58 - 60	C	2.00
55 - 57	C-	1.70
50 - 54	D	1.00
Below 50 or Absent	F	0.00
Withdrawal	W	Not counted in GPA / CGPA calculation and not shown in FT
Forced Withdrawal	FW	Not counted in GPA / CGPA calculation, however will be reflected in the FT
Incomplete	I	Incomplete grade will be awarded in case of absence from exam. But this must be completed (special exam) within one month of the conduct of exam, otherwise 0 marks will be awarded in the in such exam.