

Q1. Write an ALP that will scan a database of grades – the grades are to be stored as follows in memory: Last three digits of the id followed by grade. Only coarse grading is used so valid grades are – A, B, C D, E. For e.g. for 5 students the storage in memory will be as follows:

'238', 'A', '211', 'B', '247', 'C', '110', 'E', '111', 'B'

The count of students is available in location **cnt1**. The database of student ids and grades are available from location **dat1**. Your ALP must find the id of students who have scored an A and store the ids alone starting from location **res1**. The ALP must also find out how many students have scored an 'A' grade and store it in location **acnt1**.

The number of students will vary from a minimum of 10 to a maximum of 100. You need to demonstrate your ALP only for the minimum number.

Q2. Write an ALP that will examine a set of strings. The length each string is four characters. The number of strings to be examined is stored in location **'cnt1'**. The strings are stored starting from location **'dat1'**. The ALP should scan each string and see if it is equal to ' ' (four blank spaces). If yes, all strings that follow this string of four blank spaces should be reversed until the next string of four blank spaces is encountered.

For e.g. if the set of strings are

'math', 'have', ' ', 'bury', 'mine', 'dine', ' ', 'hell', 'deep', 'tree'

The ALP should change it to

'math', 'have', ' ', 'yrub', 'enim', 'enid', ' ', 'hell', 'deep', 'tree'

You have to use a single instruction to reverse the string.