

Programming & Data Structures Laboratory:

Section 1: Assignment 7 – Time: 70 minutes

Marks : 100

(1) Define a type called ‘student’ which will be for structures having the following fields (i) name a character string of length at most 19, (ii) a float array ‘marks’ for 5 subjects, and (iii) a character string for the roll no.

Write the following functions to be called from the main program.

(a) void readlist(student list[], int size) that will read in all the data for all the ‘size’ students for all the 5 courses for each student, the roll nos., and the names.

(b) void printlist(student list[], int size) that will print in a proper way all the data pertaining to all the students in the class. The parameter ‘size’ is the number of students and ‘list’ is an array of type student.

(c) void sortlist(student list[], int size, int code) that will sort the list of students by name, roll no. or aggregate marks depending on whether ‘code’ is 1, 2 or 3. The ‘code’ must be read in the main program.

The main program must use the readlist and printlist functions to read and print the list of student records, as stated in (a) and (b), respectively. It must then read ‘code’ and sort the list using the sortlist function as stated above in (c), and print the sorted list, again using the printlist function.