

A6: User Defined Data Types in C

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[illegible]

1. Define a data type for *Date* having 3 members viz. *day*, *month* and *year*. Define a data type for *Student* with members *rollnum*, *name*, *marks[5]*, *totalMarks*, *rank*, *dateofbirth* (of type *Date*), *age*, *gender*. Use an enumerated data type for *gender* with values *MALE*, *FEMALE*, *TRANSGENDER*. Write a C program that gets data for *N* students and computes and display the rank of the students. Use array of structures. Write a C function that takes an array of structures of students and compute their rank. If total marks of *M* students are same and get the same rank *R*, then assign *R+M* as the rank for next student. Write another function that takes two *Date* structures and returns the *age*. Use this function to set the age of the students. Write a C function that prints the transcript of a particular student with all the details in a proper format designed by you.
2. Modify the piglatin generator presented in Example 9.14 of text book by Byron Gottfried, so that it will accept multiple lines of text. Represent each line of text with a separate structure. Include the following three members within each structure:
 - (a) The original line of text
 - (b) The number of words within the line
 - (c) The modified line of text (i.e., the piglatin equivalent of the original text)Include the enhancements described in Prob. 9.5 (i.e., provisions for punctuation marks, uppercase letters and double-letter sounds). Use pointer to structures.

If you try to solve problems yourself, then you will learn many things automatically. Spend few minutes and then enjoy the excitement of problem solving.