

Structs:

The following is a list of problems involving structs. These were cut apart and each group of three students randomly drew one. Students could swap problems if they wished.

The objective was to show students a wide variety of applications of structs. This was a successful and readily accepted assignment.

Write code to declare a struct as follows. Your struct should have at least three different data pieces to it. Then write code to declare variables of this struct type and three functions: one which reads in the data for the struct and returns a struct of your type, one which takes in a struct and prints out the data for the struct and a third as specified for your particular struct. Write calls to these functions.

Your struct is to be: country-political information

Your function: returns the number of days until the next major election, from input date

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Your struct is to be: country-geographical information

Your function: returns whether the birthrate is greater than some input value.

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Your struct is to be: company- information that the EPA would find interesting, e.g. average level of chemical x emissions for the last ten years

Your function: returns the number of years chemical x emissions have exceeded some input value.

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Your struct is to be:course information that a registrar would find interesting

Your function: returns whether the course is full or not

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Your struct is to be:course information from a student's perspective

Your function: checks whether the student has the necessary prerequisites for the course.

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Your struct is to be:trees-from the naturalist's perspective

Your function: returns the age of the tree given its height. (have info on how many feet a tree grows per year, given it's species)

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Your struct is to be:health record

Your function: returns whether the person is due for a tetanus shot given the input date.

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Your struct is to be:endangered species

Your function: how many years the species has been endangered given the input date

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Your struct is to be:zoo animals

Your function: returns the age of the animal from input date

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Your struct is to be:birds

Your function: returns whether two birds have the same habitat

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Your struct is to be:family and genetic information

Your function: returns whether two people have the same disease/condition, for example ,diabetes

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Your struct is to be:chemical elements

Your function: takes in two elements and prints out the one with the greater number of electrons in its outer shell.