

Structures

1. Devise a structure template that will hold the following information:

the day of the month (1 to 31)
the current month (1 to 12)
the year (e.g. 2016)
the day of the week (e.g. 'M' for Monday)

2. In the speculation concerning a 2010 General Election, The BBC have decided to update their computer system to hold the results of Opinion Poll surveys carried out in the months leading up to the big day.

You have been tasked with designing a structure template to contain the following information:

the number of people interviewed
the date of the opinion poll (day, month, and year)
the number of people who will vote Conservative
the number of people who will vote Labour
the number of people who will vote Liberal Democrat
the number of people who are undecided
the percentage vote for Conservative
the percentage vote for Labour

3. Using the following struct template for a date:

```
struct date
{
    short day;           /* day of the month (1 to 31) */
    short month;         /* current month (1 to 12) */
    int year;            /* current year (e.g. 2016) */
};
```

write a program that declares a local variable of type "struct date" and prompts the user to enter details for the current date.

The program should then print the information as follows:

Today is 25/12/2016

4. Consider the following structure template:

```
struct car_mileage
{
    float distance;      /* distance travelled (miles) */
    float gallons;       /* fuel used (gallons) */
    float mpg;           /* miles per gallon */
};
```

Declare a local variable of type "struct car_mileage" - how many bytes will the variable occupy? Write a program that prompts the user to enter the distance travelled and the fuel consumed, and then prints the mpg (to 2 decimal places).

5. Design a structure template to hold information about a player in a football team:

name (30 characters max)
date of birth (day, month, and year)
favoured position (1=goalie, ... 11=striker)
height (metres)

Write a program that declares 2 variables of this new structure type, and reads in the information for each variable in turn.

The program should then print information for the two players as follows:

```
Name:      Robin Van Persie
DOB:       6/8/1983
Position:  11
Height:    1.88m
```

```
Name:      Gareth Bale
DOB:       16/7/1989
Position:  11
Height:    1.81m
```

(Please take into account the course author's age here 😊)