1. Draw a diagram to represent the array which is created by the following line of code:

```
double[] coordinates = {12.5, 23.1, -1.9, 6.7, -24.0};
```

Label your diagram with the following:
- Base type
- Elements
- Subscript
- Length

2. Write pseudocode for a program that uses an array to store the names of some students. The program should ask the user to choose how many names they want to store, before reading in each name in turn. The program should end by printing out each name.

3. Write the program for the pseudocode in the previous question.

4. Write a program which asks the user to enter the number of people in the room. The program should then declare an array called `heights` to store the height in metres of each person. The program should prompt the user to enter each height in turn. The program should finish by printing out the contents of the array.

5. Write a program that uses an array to store the ages of 5 students. The user should be prompted to enter the ages of all 5 students. The program should then calculate and display the average age of all the students.

6. Adapt this program so that it works for any number of students. It should begin by asking the user how many students they wish to use.

7. Write a program that will declare and initialise an array with the names of the months of the year. The program should then ask the user to enter a month number, and should display the name of that month. For example:

```
Enter a month number:  12
That month is December
```

8. Adapt this program so that it prints out the number of days in the month. Use a `switch` statement to work out the number of days in the month.

```
Enter a month number:  12
That month is December
December has 31 days
```

9. Create a new version of this program so that it prints out the name and number of days in every month.