

Problem 1

Write a program that asks the user to input the temperature in degrees Celsius, and then outputs the same temperature in degrees Fahrenheit, unless the temperature is outside the plausible range of core body temperatures, in which case the program should print an error message.

The conversion formula is:

$$F = \frac{9}{5}C + 32$$

Assume that any temperature outside the range of 32-43 is implausible and should cause an error message to appear.

Problem 2

Write a function with the signature `find_patient(patient_list, name)` that takes in a list of patient names `patient_list`, and the name of a specific patient, `name` (a string). If the name is in the list of patients, the function should return the index of the name in the list. If the name is not in the list, the function should return `-1`. Assume no name appears in `patient_list` more than once.

For example,

`find_patient(["Michael", "Michelle", "Orion"], "Orion")` should return 2

`find_patient(["Michael", "Michelle", "Orion"], "Samar")` should return -1

(If you happen to know a shortcut here, also write a solution without using the shortcut).

Test your code by calling the function using various test cases.

Problem 3

A possible core body temperature classifications scheme is as follows:

Table 1: Core Body Temperature Classification

Hypothermia	< 35
Low	35 – 36.5
Normal	36.5 – 37.5
Fever	> 37.5

The scheme can be stored in a list as follows:

```
temp_boundaries = [35, 36.5, 37.5]
```

Write the function `temp_classification(temp, temp_boundaries)` which takes in the core body temperature in degrees Celsius, and the list of temperature boundaries `temp_boundaries` (which can differ from the example above, but will always have three elements), and returns the classification of the body temperature as a string.