

# CS161: Introduction to Computer Science

## Homework Assignment 5

Due: 10/18 by 11:59pm

In this week's homework assignment you'll be working with conditionals and private methods. Be sure to pull out any repeated code into a private method.

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### Fever Flow Chart

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One of the earliest forms of artificial intelligence (AI) were expert systems. An expert system is a system designed to make decisions or arrive at diagnoses based on information it is given. The decisions it makes are based on a sequence of conditionals.

For this assignment, you will create an expert system to diagnose the cause of a fever. The flowchart shown on the next page is a simplification of the American Medical Association's (AMA) diagram for diagnosing a fever <sup>1</sup>. Using the flowchart, your program should ask the necessary questions to determine the cause of the fever as indicated by the chart.

Create a new BlueJ project entitled `hw5`. Inside the project, create a Java class called `FeverDiagnosis` that uses a `Scanner` to ask the user questions and diagnose the cause of the fever. You should pull out all repeated code into private methods to make your `main()` method as short and readable as possible.

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### Style Guide

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Before you submit your assignment, double check the following:

- You have a Javadoc comment at the top of the class with a brief description (written in full English sentences), you and your partner's name, and the date.
- All variable names are lower cased (remember, only classes are capitalized in Java)
- Use inline comments (`//`) to explain any complicated code

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### Submitting your homework assignment

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You should submit your `hw5` folder with your `FeverDiagnosis` class.

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<sup>1</sup>The flowchart is taken from *Java: Programming Design* by James Cohoon and Jack Davidson who themselves took it from *The American Medical Family Medical Guide: Third Edition*, C. B. Clayman (medical editor), 1994.

**Figure 5.1 | Procedure to diagnose the cause of a fever.**

