Exercise 2 for Students of Computer Science

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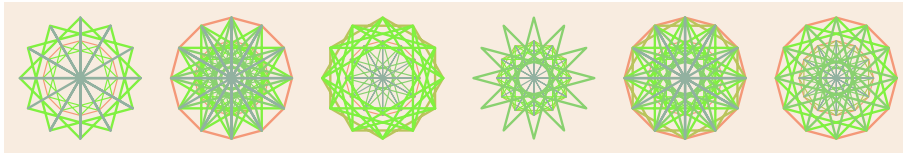
> "There are wavelengths that people cannot see, there are sounds that people cannot hear, and maybe computers have thoughts that people cannot think."
>
> —Richard Hamming

I will introduce you to the Java programming language today. We will discuss reasons for using this language rather than another in our course. We will compare programming languages to the languages that people speak.

1. Benjamin Whorf promoted the idea of linguistic relativity.

   - Who was he?
   - What is "linguistic relativity?"

2. Wilhelm von Humboldt also developed ideas related to linguistic relativity.

   We will learn the Java programming language. Von Humboldt studied a language of the people of the island of Java.

   Tell us something more about Wilhelm von Humboldt.

3. *Das Weltbild*, *die Weltanschauung*, and *die Weltsicht* are three German nouns with similar meanings. The meanings are related to the ideas developed by Whorf and von Humboldt. Look up the definition of one of these words. (If you are feeling more ambitious, try to find how their meanings differ.) Can you see the connection between the meanings of these words and the meaning of linguistic relativism?

4. What do the following German words mean?

    (a) das Erklärungsnot

    (b) das Fremdschämen

    (c) das Torschlusspanik

    (d) das Treppenwitz

    (e) verschlimmbessern

5. Think of how the German words in the previous question might find application in a translation of the following story:

    > You have found in the company that you and a partner have created a once in a lifetime opportunity. You have invested everything you have. For a year, you have been leading an effort to develop software on which the company has bet its future. You are racing to get to market before bigger companies that have more resources can do the same.

    > You are close to finishing an excellent design. Now you worry that more work might compromise the simplicity, soundness, and elegance of your design. You have promised delivery to your most important client by the end of the month.

    > Yesterday, your team met with the client. Your partner had insisted on presenting the product to this client, but bungled the demonstration and could not answer the client's questions. Your partner did not know enough to feel embarrassed. You squirmed. Then, without warning, your partner suddenly called you to the stage. You saved the day.

    > On the drive home, you thought of what you should have said to your ill-prepared partner after the nearly disastrous meeting.

    - Do you think it is possible to produce a German version that conveys not just the same facts, but also the same emotions, assumptions, and values?
    - Does the language we use limit what we can say?

- Are there ideas that we can express in one language but not another?

6. *The Imitation Game* is a motion picture that local theaters have been showing in recent weeks. It tells the story of Alan Turing.

    Who was Alan Turing?

7. What is a Turing machine?

8. What is the Church-Turing Thesis?

9. Why should we use the Java programming language?

    Search on the Web. What do other people have to say?

10. Learn a little about the origins, applications, and popularity of these other programming languages.

    - C#
    - JavaScript
    - Python
    - Ruby