Conversation 1: Hi!

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MATH 3200: Applied Linear Algebra

Hi! Meet Alice, Bob, and Cindy

Alice: Hi! I'm Alice, and I'm really looking forward to this class.

Bob: Hi! I'm Bob. Nice to meet you, Alice!

Alice: Nice to meet you, Bob!

Bob: I'm also looking forward to this course. They say it will be "different". I wonder: What is it going to be like?

Cindy: Hi! I'm Cindy. I wonder about this too. Sounds a bit scary.

Bob: Hi Cindy!

Alice: Nice to meet you, Cindy!

Cindy: Nice to meet you, Alice and Bob! Do you think this class will be difficult?

Alice: I think it's going to be challenging. I like challenge.

Bob: More difficult than other classes, I heard. But students of this prof who study hard tend to do well, so we should be fine.

Hi! Meet Denny and Frank

Denny: Don't count on that! A friend of mine took a class with this prof, pulled all-nighters before before each test and the final, and still barely got a D.

Bob: I was talking about studying regularly.

Denny: I'm Denny, by the way. Hi everybody!

Cindy: Hi Denny! Nice to meet you!

Frank: Hi! I'm Frank. Nice to meet you all.

Alice: Hi Frank! Nice to meet you!

Frank: The class will be insanely hard, I can tell you.
This prof is unreasonable.

Denny: What do you mean?

Frank: Instead of just showing examples of how things are done, he expects students to figure out what they need to do.

Which recipe do you follow?

Bob: Do you mean: We will not always be told to follow a given recipe, but need to pick the correct recipe for a given problem?

Frank: Yeah. That's unreasonable.

Denny: Unfair. Math is all about following recipes.

Bob: But for doing a calculation by recipe, you would be better off using a computer instead.

Frank: Right. We shouldn't need to take any math courses at all.

Alice: If we want to apply math to real-world problems though, somebody has to tell the computer which recipe to follow. For solving different problems we may need to choose different recipes. It sounds like this prof is trying to teach how to make these choices.

Cindy: This would be good. I usually draw a blank when I am given a problem and need to decide what to calculate for it. Maybe in this class I will learn how to do it.

Course description

Theo: Hi everybody! I'm Theo. Delighted to meet you all.

Cindy: Hi Theo! Nice to meet you!

Theo: It sounds like the professor is going to teach us conceptual understanding.

Frank: What the ...

Denny: ... is that supposed to mean?

Theo: Read the official course description.

Bob: It says: "... solutions to linear systems, matrices and matrix algebra, determinants, n-dimensional real vector spaces and subspaces, bases and dimension, eigenvalues and eigenvectors, diagonalization, norms, inner product spaces, orthogonality and least squares problems."

Frank: I don't even understand half of the words here. They shouldn't put this in the catalogue.

Conceptual understanding

Denny: Gibberish. What does this mean in plain English?

Theo: We will learn that in the course.

Denny: And knowing the translations into English is "conceptual understanding"?

Theo: The beginning of it. It sets up a conceptual framework for talking and thinking about linear algebra problems. Once you have this conceptual framework in your mind, deciding which recipe to use for a given application of linear algebra will become easy.

Bob: Sounds good. But how does one wrap one's mind around this conceptual framework?

Alice: By talking about it, for starters. Like the six of us are talking right now about the class. Bouncing around some ideas, getting it wrong much of the time, sometimes right, and giving each other feedback.

What's this course going to be like?

Cindy: You mean . . . like in group work?

Alice: Yeah. But I heard that this prof has an idea for doing something like group work in front of the whole class.

Frank: Crazy.

Cindy: I like crazy ideas. Well, some really cool ones anyway.

Denny: Hope this one won't hurt people's grades.

Bob: How on earth is this going to work?

Alice: Look at all these people sitting there. Shall we meet them?

Question C1.1: Hi! Who are you?

All: (Whisper) Who is the guy listening in on our conversation? (Aloud) Hi! Who are you?

WJ: Hi! I'm Winfried Just, your professor for this class. And I will now go with you over the syllabus.

About our protagonists

A number of presentations will feature the characters of Alice, Bob, Cindy, Denny, Frank, and Theo that were introduced here.

They are purely fictitious; none of them is based on any one real person. They represent different cognitive styles and attitudes that will contribute in various ways to success with the mathematical problems that they discuss.

Think of them as students like yourself who struggle with and eventually master difficult parts of the course material in similar ways you and your classmates would. By joining their discussions via the interactive Top Hat questions, you may improve your understanding of the material like in a discussion with actual classmates.