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After the class, and by the announced deadline, prepare a written report of your session, including the interactions among the group members, and a detailed explanation of how you arrived at your solution. You may include diagrams and mathematical work if you used those as part of your process.

**One group member** should submit that to the Curator System via the collection point for ICE01.

Remember that the evaluation of your solution will depend both on the presentation of your discussions, and on completeness and clarity of your analysis of the problem.

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## 1: The Lead

The sisters of Alex Smith (dancer) were Bell (dancer) and Cass (singer); the brothers of his girlfriend, Faye Jones (singer), were Dean (dancer) and Ezra (singer).

One of the six had the lead role in a movie; one of the other five was the director of the movie.

If the lead and the director were related, the director was a singer; otherwise, the director was a man.

If the lead and the director had the same occupation (indicated above), then the director was a woman; otherwise, the director was a Smith.

If the lead and the director were of the same gender (reliably indicated by their names), the director was a dancer; otherwise, the director was a Jones.

Who was the lead?

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## 2: The Killer

The sisters of Aaron Green (doctor) were Betty (doctor) and Clara (lawyer); the brothers of his girlfriend, Flora Brown (lawyer), were Duane (doctor) and Edwin (lawyer).

One of the six killed one of the other five.

If the killer and the victim were related, the killer was a man; otherwise, the killer was a doctor.

If the killer and the victim had the same occupation, the victim was a man; otherwise, the victim was a woman.

If the killer and the victim were of the same gender (reliably indicated by their names), the killer was a lawyer; otherwise, the victim was a doctor.

Who was the killer?

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### 3: The Lineup

At a police lineup, a witness to a crime sought to identify a criminal from among four men. The witness looked for a man who was not tall, not fair, not skinny, and not good-looking. However, the witness may have been incorrect in thinking that any of those characteristics actually applied to the criminal.

In the lineup:

Four men each stood next to at least one tall man.

Exactly three men each stood next to at least one fair man.

Exactly two men each stood next to at least one skinny man.

Exactly one man stood next to at least one good-looking man.

Of the four men in the lineup:

The first man was fair, the second man was skinny, the third man was tall, and the fourth man was good-looking.

No more than one man had any pair of the aforementioned characteristics (tall, fair, skinny, good-looking).

Just one man had more than two of the looked-for characteristics (not tall, not fair, not skinny, not good-looking); this man was identified as the criminal by the witness.

Which man (first, second, third, or fourth) was identified as the criminal?

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#### **4: The Shortest Time**

One evening, Wilson, Xavier, Yeoman, Zenger and Osborn made separate camps along the banks of a river. The next morning all were to meet at Osborn's camp; then each man besides Osborn was to return to his own camp.

Wilson and Xavier camped downstream from Osborn, while Yeoman and Zenger camped upstream from Osborn.

Wilson, Xavier, Yeoman and Zenger each had a motor boat; each motor boat would take its owner to Osborn's camp in one hour, if there was no current in the river.

There was a strong current in the river.

The next morning, each of the four men went in his motor boat to Osborn's camp. Wilson made the trip in 75 minutes, Xavier made the trip in 70 minutes, Yeoman made the trip in 50 minutes, and Zenger made the trip in 45 minutes.

Which of the four men made the round trip, from his camp to Osborn's camp and then back to his camp, in the shortest time?

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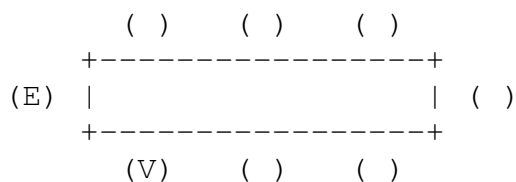
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## 5: The Extortionist

Helen and her husband, Helmut, gave a dinner party to which they invited: her brother, Blair, and Blair's wife, Blanche; Helen's sister, Sheila, and Sheila's husband, Sherman; and Helen's neighbor, Nora, and Nora's husband, Norton.

One of the eight people was an extortionist, and one of the other seven was the extortionist's victim.

While they were all seated at the table, the victim unsuccessfully attempted to stab the extortionist with a steak knife. The chairs were arranged around the table as in the diagram below:



The extortionist sat in the chair marked E; the victim sat in the chair marked V.

Each man sat directly across from a woman, and each man sat between a man and a woman.

The extortionist's spouse and the victim's spouse sat next to each other.

The host sat between the victim and the hostess.

Blair sat between Sheila and Norton.

Who was the extortionist?

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## 6: The Smiths

Two women, Audrey and Brenda, and two men, Conrad and Daniel, each do calisthenics on two days during a Sunday-through-Saturday period.

The second day on which Audrey does calisthenics is five days after the first day.

The second day on which Brenda does calisthenics is four days after the first day.

The second day on which Conrad does calisthenics is three days after the first day.

The second day on which Daniel does calisthenics is two days after the first day.

Two of the people, a man and a woman, are married and have the surname Smith; they do calisthenics on the same day just once during a period.

On each of the remaining days, only person does calisthenics.

Who are the Smiths?

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