

Task 5

Submit through the UPLOAD system

(or via e-mail to olga.stepankova@fel.cvut.cz if UPLOAD is not accessible for you)

Deadline for submission of Task 5: 15.5. 09:00 am.

Task 5a. Who is the best? Max.evaluation: 1 point

Three Masters of Logic want to find out who was the wisest amongst them and asked their Grand Master to resolve their dispute. "Easy," the old sage said:

*"I will blindfold you and paint either red, or blue dot on each man's forehead. When I take your blindfolds off, if you see at least one red dot, **raise your hand**. The one, who guesses the color of the dot on his forehead first, wins."* And so it was done.

When he took their blindfolds off, all three men raised their hands as the rules required, and sat in silence pondering. Finally, one of them said: *"I have a red dot on my forehead."*

A: How did the winner guess?

Task 5b continued

Max.evaluation: 2 points

After losing the former "Spot on the Forehead" contest, the two defeated Puzzle Masters complained that the winner had made a slight pause before raising his hand And so the Grand Master vowed to set up a truly fair test to reveal the best logician amongst them.

He showed the three men 5 hats - two white and three black. Then he turned off the lights in the room and put a hat on each Puzzle Master's head. After that the old sage hid the remaining two hats, but before he could turn the lights on, one of the Masters (as chance would have it, the winner of the previous contest) announced the colour of his hat. And he was right once again.

B: What colour was the winner's hat? Describe his reasoning!