Lecture

Knowledge-based Systems

Mock Exam

Dr. Mohsen Mesgar

Universität Duisburg-Essen

In this lecture, you learn about …

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

- Some example questions, which may appear in the exam
- Note: These are only mock questions, you should read mandatory materials, slides and exercise
- I recommend you to read the optional reading materials as well.

Q1

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

- How would you define knowledge?

- Is a true belief equivalent to truth? Explain your answer with an example.

Q2

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

- From the Russell & Norvig's perspective, what is AI?
- How does Turing test relate to the definition you provided for the first part of the question?

Q3

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

- “symbolic” and “connectionist” are two levels of knowledge representation. How do these levels differ from each other?
- For each of them, name three available knowledge bases?
- Pick of one of the knowledge bases you named, and explain its properties.

Q3

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

- “symbolic” and “connectionist” are two levels of knowledge representation. How do these levels differ from each other?
- For each of them, name three available knowledge bases?
- Choose one of the knowledge bases you named, and explain its properties.

Q4

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

- You friend suggests you a new language model. You want to evaluate it. Thus, you give the language model a sentence. The sentence is s = "*If Alex studies enough, he'll pass the exam .*" The language model assigns a probability score p(s) = -0.98 to the sentence. Why shouldn't you use this language model?

Q5

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

- Define cosine similarity between two vectors?
- What is the minimum and maximum value for the cosine function?
- Compute the cosine similarity between the following vectors
  - A = [1,0,1]
  - B = [-1,0,1]
- What is the angle between these two vectors?

Thank You