I308: Information Representation

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Course Info

- Course web pages
  - available through Oncourse
  - hard links:

- Course text
  - XML and SQL by Appelquist
  - Comes with PRS
Grades

- 20% 6-8 assignments (weighted evenly)
- 40% 2 in-class tests
- 40% final exam
- 3% participation (bonus)
  - Concept quizzes (lecture)
  - Lab exercises
  - Positive participation in lecture, lab, Oncourse

Assignments

- Electronic submission (Oncourse)
  - Format requirements in syllabus
- Late assignments:
  - Up to 24 hours for -5%
- Don’t forget your name
- Don’t put your SSN on them
- Must be entirely in your own words
Assignments

- Divided into questions and parts
- Each part usually worth 5 points
- Grading scale usually something like:
  - 5/5 = correct answer
  - 4/5 = work shown, minor errors
  - 3/5 = work shown, major errors
  - 2/5 = no work shown, minor errors
  - 1/5 = no work shown, major errors
  - 0/5 = empty

Policies

- Assignments must conform to posted guidelines (syllabus)
- Assignment writeup must be individual work
- Exams will be closed book, individual work
- No grading concerns during busy OH
- Read IU’s code of student rights, responsibilities, and conduct
- “W” date: Wednesday, October 27
- “I” only in truly exceptional circumstances
What is Information?

∀x∃y(x? y → ∃z(x+z=y))

Information Representation

- Formal Structure
  - Logical/Mathematical
  - Linguistic
  - Diagrammatic
Information Representation

- Conceptual Modeling – Topic 2
- Physical Representation – Topic 1

Information Representation

- Logical Formalisms – Topic 3
  - Translation; exploration
The Information Spectrum

- Data
  - Physical structure

- Information
  - Logical structure

- Knowledge
  - Human component

Communication

- Representation
- Communication
Representation or Communication?

1. Janene can’t determine whether the X-Ray indicates an abnormal medical condition.
   A. Representation
   B. Communication
   C. Both
   D. Neither

Representation or Communication?

2. Justin contemplates how to phrase parts of his quarterly report.
   A. Representation
   B. Communication
   C. Both
   D. Neither
Representation or Communication?

3. In 1836, Samuel Morse demonstrated the ability of a telegraph system to transmit information over wires.
   A. Representation
   B. Communication
   C. Both
   D. Neither

Summary

- What is information?
- What is data?
- What is knowledge?
- What is information representation?
- What role does communication play?