COMP 341
Introduction to Artificial Intelligence

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Hello!

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- Office: Eng 273
- Office Hours: TBD (appointments possible)
- Any questions you want to ask about me?

TAs

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Aydin Ahmadi	aahmadi22@ku.edu.tr	by appointment
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What about you?

Raise your hand:

- Department

- Year

- Linear algebra confidence

- Probability confidence

- Python knowledge

Syllabus

- Scan this or use learn hub to get the syllabus

- I will go over a few points here

- [Link](link) for pdf

Course Management and Communication

- Learn Hub will be used for course management:
  - Course content
  - E-mail announcements
  - Extra material, Useful links
  - Past exams and their solutions
  - Code exercises
  - Assignments and Assignment Submissions
  - Posting grades
  - Lecture Videos
- **Everybody is expected to check their e-mails!**
- Do not hesitate to reach out to us through: comp341-tas-group@ku.edu.tr

Textbook – AIMA
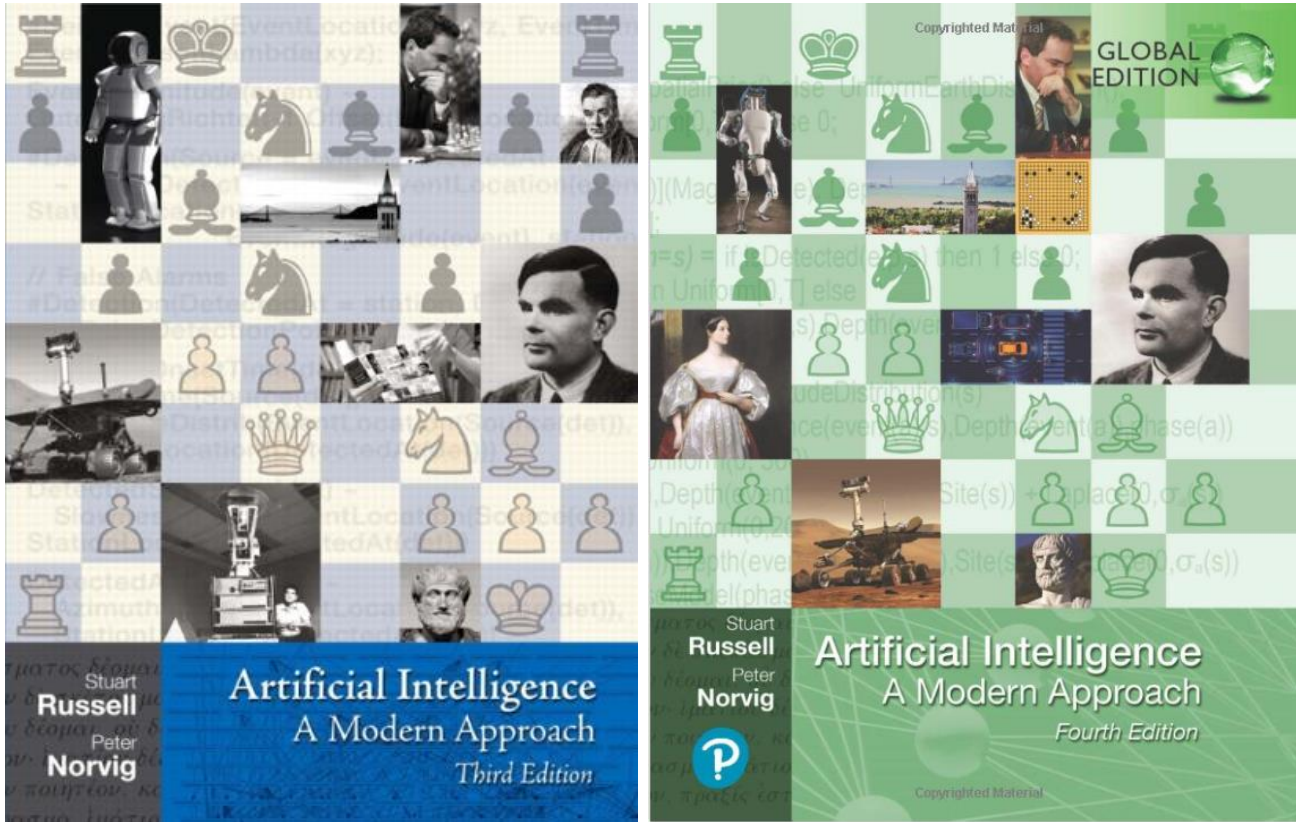
- Russell & Norvig, AI: A Modern Approach
  - Both 3rd and 4th editions work

- Marked as required but you do not have to buy it

- This class follow additional sources as well

In Class

- I strongly encourage you to attend the lectures, but I do not take attendance
- If you do not disturb me or your friends and do not make a mess, you can do whatever you want in the class. For example:
  - Play with your laptop, tablet or phone but I do not want any **blue** faces or noise
  - Work on some other course's homework
  - Sleep unless you snore, read a book but no newspapers
  - Daydream, plan your weekend, contemplate life
- I will give 5 to 10-minute breaks during most lectures

- In return, I ask you to be quiet while I am teaching

Assessment

- Exams:
  - 3 MTs, best 2 out of 3 for 40% total, min. req. 15% out of 40%
  - 1 Comprehensive Final, 40%, min. req. 15% out of 40%

- Homeworks:
  - 5 Planned, 20% total, min req. 8% out of 20%
  - Mix of programming and written
  - There maybe extra HWs, will be graded as extra or as replacement

- Minimum grade to pass 40%

- Late Policy: At the instructor's mercy!

Make-up, Remedial and Early Final Policy

- No midterm makeups
- Final makeup and remedial will be scheduled on the same day
- No makeup for the makeup exams

- Early final (e.g., if you are in an exchange program)
  - Will be counted instead of the final
  - No makeup for the early final
  - Needs to be communicated before week 10

Programming Homeworks
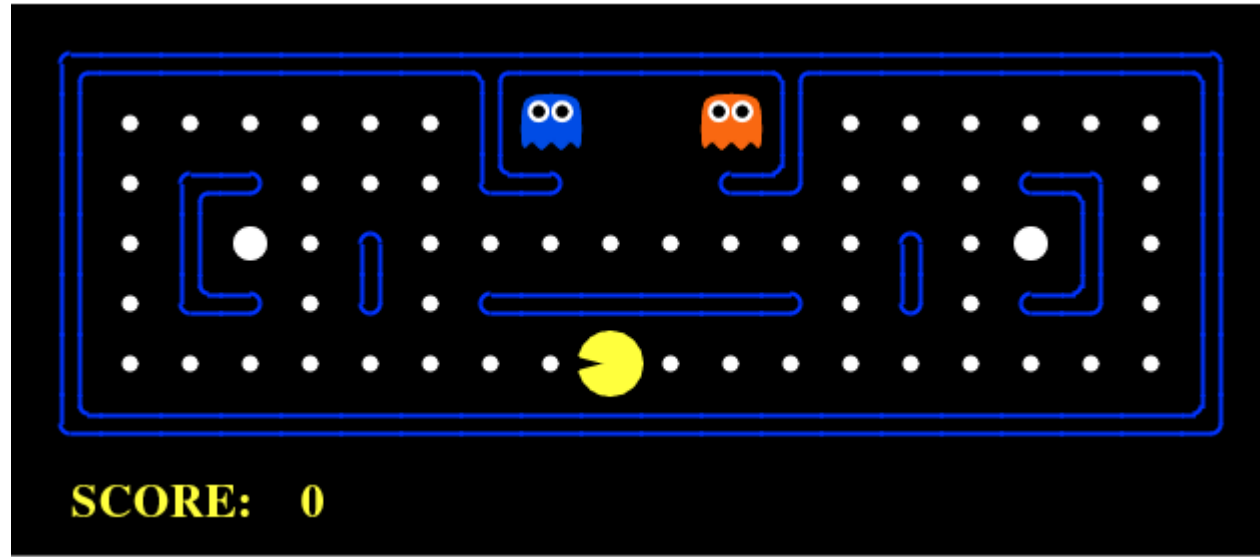
- Pacman projects from the Berkeley's AI class
- Maybe additional assignments
- There will be autograders! If you dislike autograders then you should just audit this class ☺

Programming Homeworks Continued

- **Python:** You will need to learn python and learn it fast!

- **No Reports!:** This semester, there will be no reports.

- **Plagiarism and Cheating:** Since there are no reports, we will spend more energy on plagiarism checks. There will be no tolerance for plagiarism and cheating and severe cases will be met with disciplinary action.

- If you think you will have trouble programming, re-think taking this course

What is considered cheating?

- Taking your someone else's code entirely or partially (stackoverflow counts too)?
  - Yes, in general. It is okay if you do small bits and pieces and cite your usage. However, direct copy+paste is cheating
- Talking about the solution implementation?
  - Yes, in general. It is okay to get help if you get stuck once or twice. However, talking about entire answers is cheating.
- Talking about the solution?
  - Gray-area. Some amount of talking is beneficial and encouraged but too much leads to very similar code, which we usually consider as cheating
- Non-specific python help?
  - No
- Using an AI helper?

What about Generative AI? – LLM use Policy

- You can use a large language model (LLM) such as ChatGPT to help you write code

- We will not deduct points for using LLMs if you **cite your usage**. Failing to cite LLM usage or other work will be treated as plagiarism/cheating.

- Use them carefully!
  - LLMs are prone to hallucinations. They will occasionally output incorrect information while sounding very confident.
  - You need to know the subject to be able to spot these
  - You will need to "prompt engineering" to get good results
  - Any mistakes made by the LLM will be treated as your mistake

What does it mean to "cite"?

Ungraded Homework for Next Week

- Most of you should already have it but if you do not, install a Python environment!

- Some options
  - Direct Install + Notepad
  - Anaconda + Spyder IDE
  - Pycharm IDE
  - …

- What about Jupyter Notebooks et al.?
  - Untested with homeworks (Pacman Graphics)
  - Will only accept Python submissions

Tentative Topics

Subject	Details	Book 3e Chapter	Book 4e Chapter
Introduction	Definition and history of AI, Agents, Basic concepts	1,2	1,2
Search	Problem definition, Uninformed Search, Informed Search, Local Search, Adversarial Search	3,4,5	3,4,6
Constraint Satisfaction	Problem Definition, Solution Methods (search based and local search based)	6	5
Uncertainty	Probability Primer, Representing Uncertainty, Bayes Nets: Representation, Independence, Inference, Probabilistic Reasoning over time: Hidden Markov Models	13,14,15	12,13,14,15
Machine Learning	Introduction to ML, Performance Testing, Parameter Selection Methods, Several simple ML methods	18, 20	19,21
Decision Making	Markov Processes, Markov Decision Processes (MDPs), Solving MDPs, Reinforcement Learning (RL), RL Solution Methods	16,17,21	16,23
~~**Logic (Optional)**~~	~~Concepts of Logics, Knowledge Representation, Propositional Logic, First Order Logic~~	~~7,8,9~~	~~7,8,9~~

Warning: Current AI is fuelled by Deep Learning, but we will only conceptually talk about it. We also do not go into details of machine learning models.

Potential Topic Change

Shorten some parts for:

- More continuous math

- More ML

- Recent Developments

Will not have time for all of these

Questions?