CS 45
Midterm Info

Scheduling

- Midterm is in SCI 101 during normal class time (11:20 – 12:35) on Thursday, March 5.

CS Exam Policy

Exam takers must place all non-essential items at the front of the room (or other designated area). Unless otherwise permitted, students may not have any electronic devices or course materials in their possession during the entirety of the exam. This includes cell phones, tablets, laptops, smart watches, course notes, articles and books, among others. These items should be placed at the front of the room near the proctor. If you need to leave the room during the exam, you must obtain permission from an instructor first. Any non-permitted discussion or aide in regards to exam material will result in immediate forfeiture of the exam and a report to the College Judiciary Committee. Please discuss any concerns or accommodations with your instructor prior to starting the exam.

Format

- A few important definitions.
- A few short answer questions.
- A few multi-part depth questions.

Hints

- You don’t need to shotgun me with info.
  - If it says to be brief, don’t write a ton.
  - I will grade all of what you write.

- I try to specify approximately how much text I’m looking for.
  - When it’s not explicit, you can usually guess by the point value of the question and blank space.

Hints

- For many questions, the point value roughly corresponds to how many things I'm looking for in your response.
  - 3 points: describe 3 things…
- Numerical questions: showing work can help you get partial credit
- Explanation/Why questions: I'm generally looking for a text answer. You can use examples/numbers as supporting evidence though.

Hints

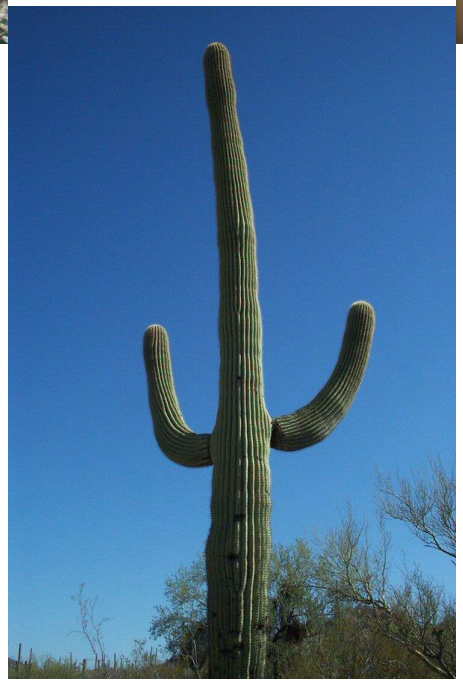
- If I ask a question like, “Given [scenario], why might we prefer to do X rather than Y?”
- DO NOT just answer:
  - “it’s faster” / “it’s better” / “it’s more efficient”
- Much better:
  - “it’s faster because…” (e.g., it requires fewer instructions)

Fair game…

- System calls and OS structural patterns
- Processes and their resources
- Scheduling and context switching
- IPC models and mechanisms
- Threads and shared memory benefits
- Concurrency, race conditions, atomicity, and synchronization
- Memory management + virtual memory (as we've seen it)
- (Anything else we talked about in class)

Examples:

Examples: Cacti



Definitions

- Response: ~1-2 sentences

- Cactus example:

  spine

  Cactus spines are modified leaf structures that provide protection against herbivores and aid in the reduction of water loss.

Short Answer

- Response: a few words to one sentence

- Cactus example:

  In class, we talked about several common cactus body types. Choose three, and briefly describe their characteristics.

  Columnar – Tall, large, sparse columns, like the Saguaro

  Globular – Singular barrel-like shape

  Clumping – Group of small, usually round stems closely clustered together

Multi-Part

- Response: depends on part and point value
  - *Usually* earlier Q's are fewer points and shorter

Cactus Classification

A. (1 pt) What is the relationship between cacti and succulents?
B. (2 pt) Why is it difficult to classify cacti?
C. (4 pt) How have genetic markers been used to classify cacti?

Multi-Part

A. (1 pt) What is the relationship between cacti and succulents?

   All cacti are succulents, not all succulents are cacti.

B. (2 pt) Why is it difficult to classify cacti?

   Cacti pollination is not selective, leading to many hybrid species for which there is no classification. Furthermore, different groups using different naming systems, adding more confusion to cactus classification. (ex optional)

C. (4 pt) How have genetic markers been used to classify cacti?

   (I have no idea.)

Exam logistics questions?

Next Tuesday

- Q&A midterm review session

- Bring any questions you may have or OS topics you want to discuss / clarify