

# Back to the Future: A Historical Perspective

**Hakim Weatherspoon**

**CS 3410, Spring 2013**

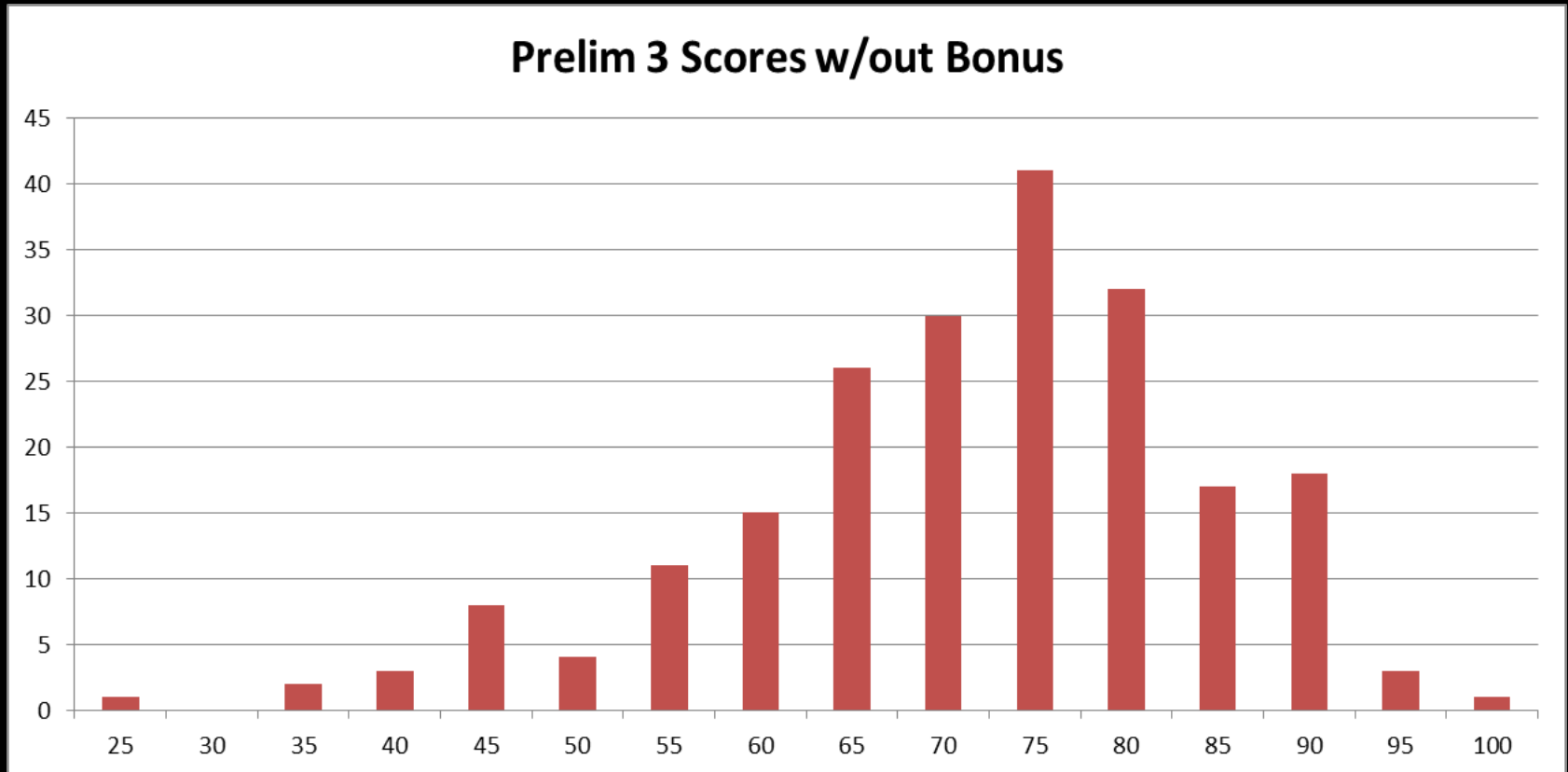
Computer Science

Cornell University

# Announcements

## Prelim3 Results (w/out bonus)

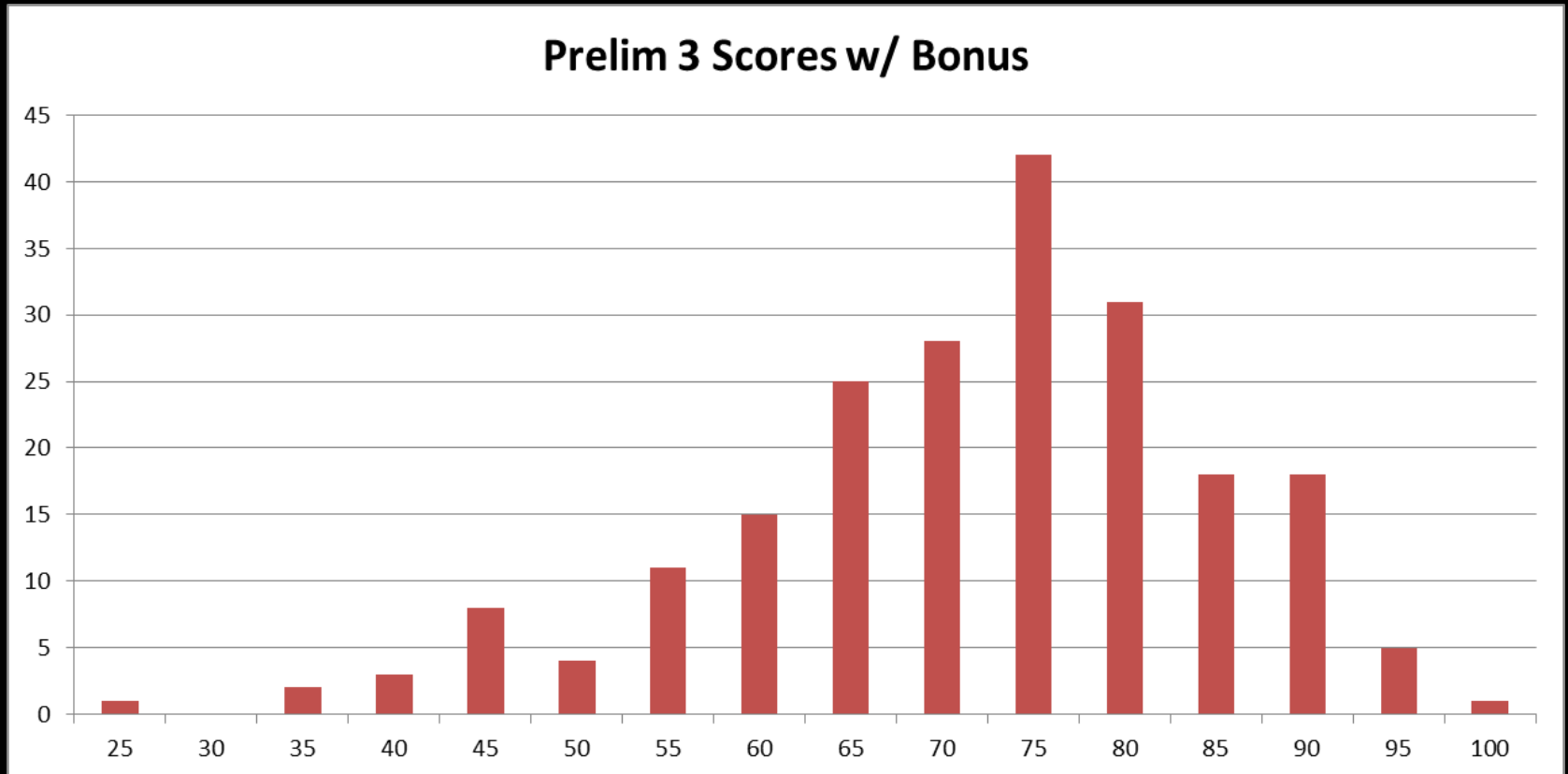
- Mean  $69.5 \pm 12.9$  (median 71.5), Max 95.5, out of 98
- Pickup in Homework Passback Room (305 Upson)



# Announcements

## Prelim3 Results (w/ bonus)

- Mean  $69.8 \pm 13.1$  (median 72.3), Max 95.5, out of 98
- Pickup in Homework Passback Room (305 Upson)



# Announcements

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How to improve your grade?

***Submit a course evaluation and drop lowest homework score***

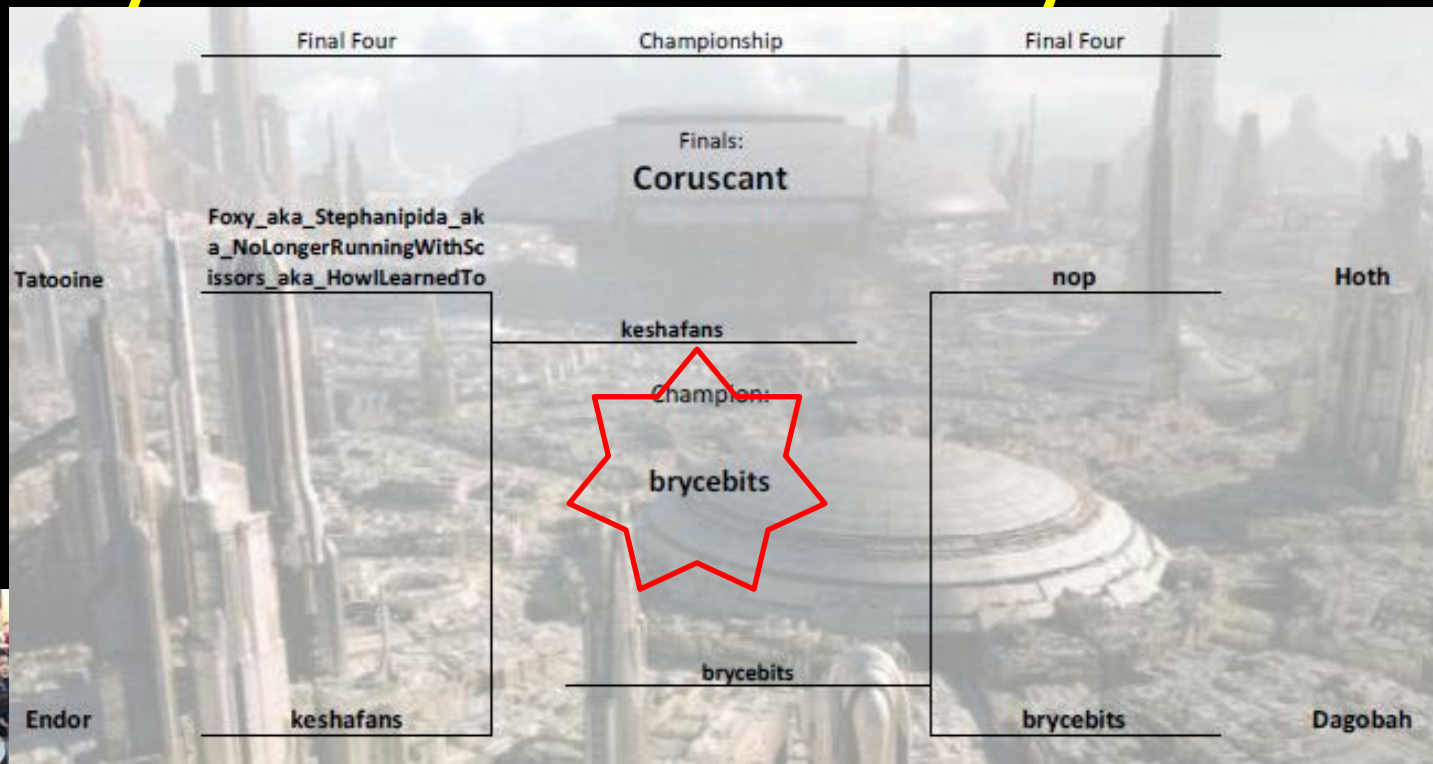
- To receive credit, Submit before Tuesday, May 7<sup>th</sup>

# Announcements

## CacheRace Games Night was great!

- Winner: Team **Brycebits**

**Bryce Evans** and **Dominick Twitty**



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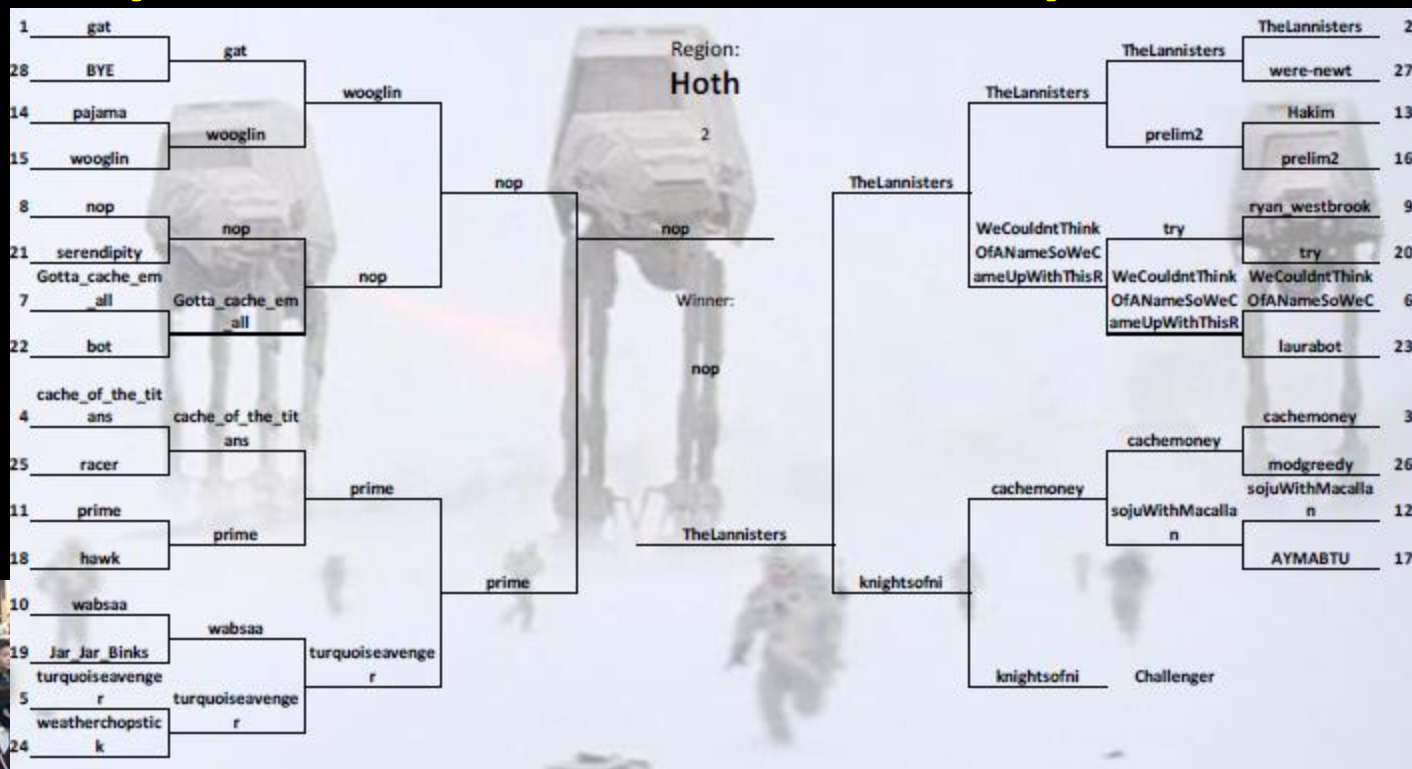


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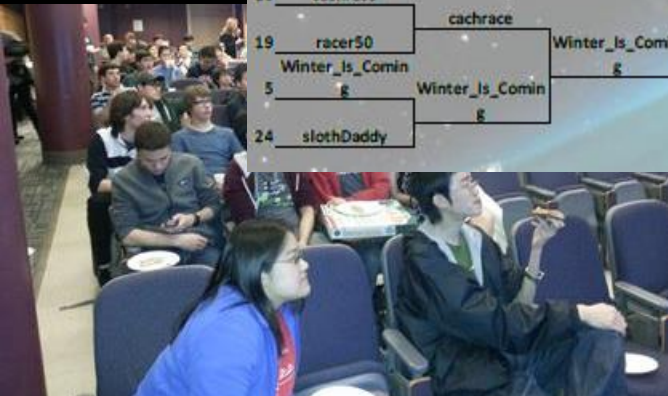
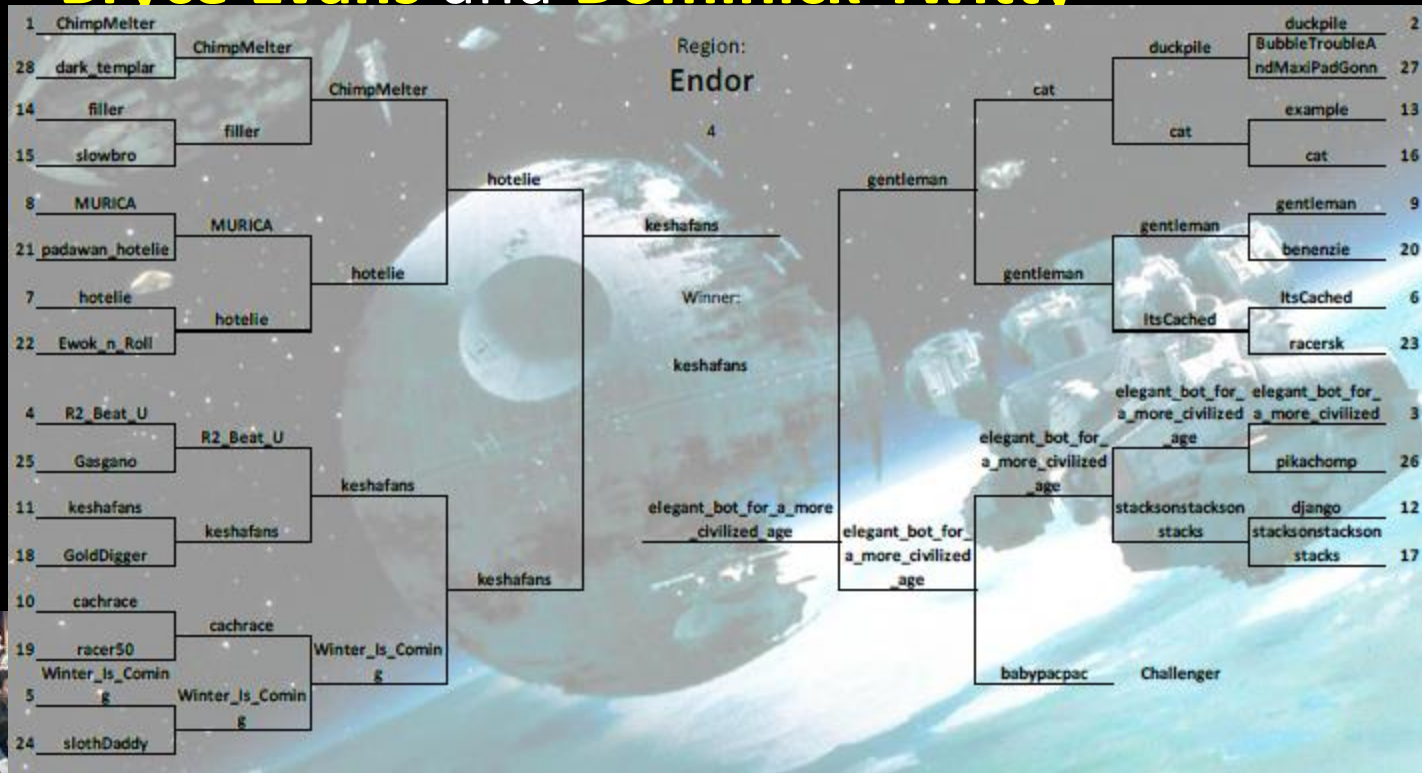


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## Final Project

Design Doc sign-up via CMS

sign up Sunday, Monday, or Tuesday

May 5<sup>th</sup>, 6<sup>th</sup>, or 7<sup>th</sup>

Demo Sign-Up via CMS.

sign up Tuesday, May 14<sup>th</sup>

or Wednesday, May 15<sup>th</sup>

CMS submission due:

- Due 6:30pm Wednesday, May 15<sup>th</sup>

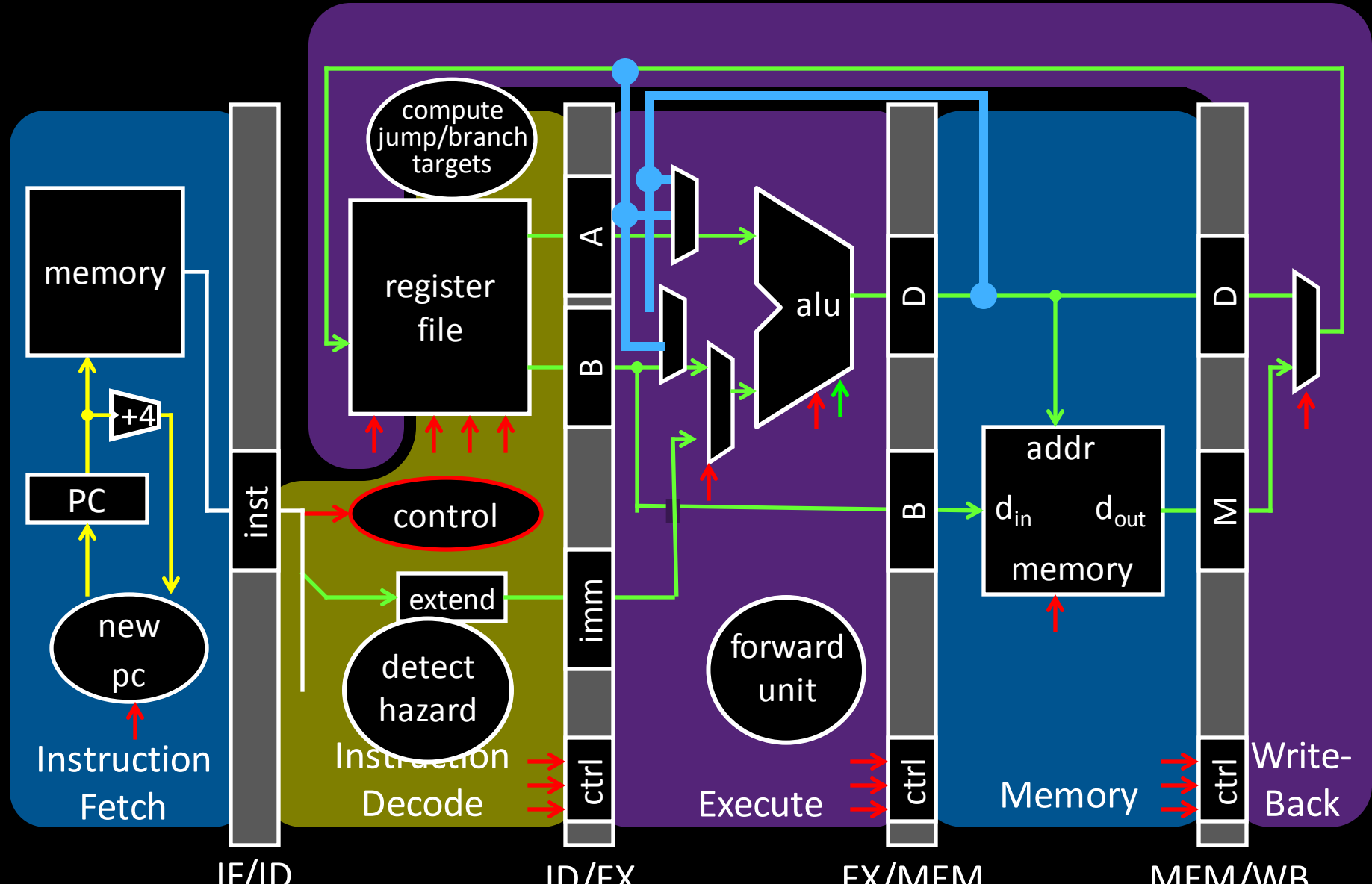
# Goal for Today: Back to the Future

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Can multiple entities interact with processor at once?

# Back to the Future: Timesharing

Can multiple entities interact with processor at once?



# Back to the Future: Timesharing

## Fernando J. Corbató (MIT)

- Known for pioneering time sharing systems and MULTICS operating system (later influence UNIX)
- Influences: Turing Award Recipient (1990).
  - "for his pioneering work in organizing the concepts and leading the development of the general-purpose, large-scale, time-sharing and resource-sharing computer systems"
  - Corbató's Law: "Regardless of whether one is dealing with assembly language or compiler language, the number of debugged lines of source code per day is about the same!"



IBM 7090



# Back to the Future: Timesharing

## 1963 Timesharing: A Solution to Computer Bottlenecks

<http://www.youtube.com/watch?v=3lkP7gZlprk&feature=youtu.be> (cc)

<http://www.youtube.com/watch?v=Q07PhW5sCEk&feature=youtu.be>

- Reporter John Fitch at the MIT Computation Center in an extended interview with MIT professor of computer science Fernando J. Corbato
- The prime focus of the film is timesharing, one of the most important developments in computing



IBM 7090