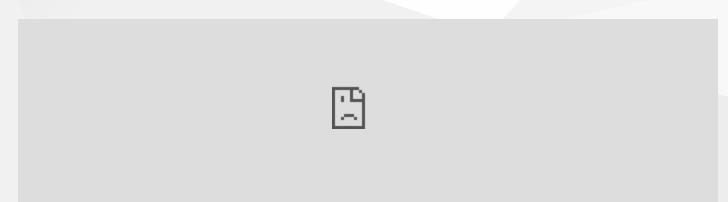
# **CE205 Data Structures**

# Week-7

Linear, Binary and Fibonacci Search, Hashing and Hash Tables with Perpect Hashing

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#### **Outline-1**

- Linear Search
- Binary Search
- Binary Search vs Linear Search
- Interpolation Search
- Interpolation search vs Binary search
- Fibonacci Search



#### **Outline-2**

- Hashing and Hash Tables
- Direct-Address Tables
  - Hash Tables
  - Hash Functions
  - Open Adressing
  - Perfect Hashing



#### **Linear Search**

- http://www.btechsmartclass.com/data\_structures/linear-search.html
- https://www.geeksforgeeks.org/linear-search/



## **Binary Search**

- http://www.btechsmartclass.com/data\_structures/binary-search.html
- https://www.geeksforgeeks.org/binary-search/
- https://visualgo.net/en/bst



# Binary Search vs Linear Search

• https://www.geeksforgeeks.org/linear-search-vs-binary-search/?ref=rp



# **Interpolation Search**

https://www.geeksforgeeks.org/interpolation-search/



# Interpolation search vs Binary search

https://www.geeksforgeeks.org/g-fact-84/?ref=rp



## Fibonacci Search

https://www.geeksforgeeks.org/fibonacci-search/



## **Hashing and Hash Tables**

- https://www.hackerearth.com/practice/data-structures/hash-tables/basics-of-hash-tables/tutorial/
- http://www.btechsmartclass.com/data\_structures/hashing.html



## **Direct-Address Tables**

https://www.geeksforgeeks.org/direct-address-table/



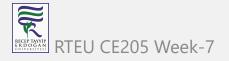
#### **Hash Tables**

https://www.tutorialspoint.com/data\_structures\_algorithms/hash\_data\_structure.ht



#### **Hash Functions**

- https://www.geeksforgeeks.org/what-are-hash-functions-and-how-to-choose-a-good-hash-function/
- https://www.tutorialspoint.com/cryptography/cryptography\_hash\_functions.htm
- https://www.cs.hmc.edu/~geoff/classes/hmc.cs070.200101/homework10/hashfuncs
  .html



## **Open Adressing**

• https://www.geeksforgeeks.org/hashing-set-3-open-addressing/



### **Perfect Hashing**

 https://en.wikipedia.org/wiki/Perfect\_hash\_function#:~:text=In computer science%2C a perfect,constant worst-case access time.



$$End-Of-Week-6$$

