CSC 106 Lab 7

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Review about Databases (and maybe Midterm stuff)

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For a database, we have

Tables - made up of records/rows and fields/columns

Primary Keys

Entities - Set of data.

Relationships - things that link entities together

\*1 to 1 relation

\*1 to infinity relation

\*infinity to 1 relation

\*infinity to infinity

SQL - Programming language for databases

\*Broken down into 3 steps: 'Select', 'From', and 'Where'

\*Select: choose field (If calling fields, be sure to use the dot notation to specify which tables the fields are from)

\*From: Put (a) table(s) that contain the fields specified

\*Where: Condition for manipulating data. == <> <= >= > <

example. loans.paymentdate could refer to the "paymentdate" field that is in the "loans" entity

Heaps.

Max Heaps property. The parent node has to be greater than or equal to its children.

Heapsort(A)

Buildmaxheap(A) //nlogn time

for i = length(A) to i=2 //n time

swap A[i] and A[1] //constant time

print A[i] //constant time

set length(A) to length(A)-1 //constant time

maxheapify(A,1) //logn

//the whole forloop totals to a nlogn running time

NP classes.

P = It has an algorithm in polynomial time and check corectness of answer in polynomial time

NP-complete = Has to be in class NP, these do not have polynomial time algorithms. They are as hard as any problem in NP.