Homework 1

1. Can SQL be used as a general-purpose programming language? a) yes b) no \_\_\_no\_\_\_\_
2. What is another word for “table”? \_ relation \_\_\_\_\_, or \_ relation instance \_\_\_\_\_\_

c. Is SQL a procedural language or a declarative language? a) procedural b) declarative \_ Declarative \_.

d. Fill in the blank: The ‘value’ of a programming language variable is equivalent to a relation instance as the ‘type’ of a programming language variable is equivalent to a \_ attribute \_\_\_\_\_\_.

e. Fill in the blanks: if attribute “student\_id” is the primary key of a table, then no two \_ rows \_\_\_\_ of the table can have the same value of \_ the attribute ‘student\_id’\_\_\_\_\_.

f. What is the name of the standard Java API to a database? \_\_\_.

=>(JDBC)Java database Connectivity

g. Suppose a relation schema has attributes {a,b,c,d,e}. If {a,b} is a candidate key for the schema, then is {a,b,d} also a candidate key? (yes or no) \_no\_\_\_\_.

h. Can a relation schema have two primary keys? (yes or no) \_no\_\_\_\_\_\_\_\_.

i. An SQL ‘create table’ statement can contain one or more foreign key definitions. This foreign key definition of table ‘takes’

foreign key (ID) references student

says that every value in the ID column of ‘student’ must match a value in table ‘student’. What is the column of the matching value in ‘student’: a) column ‘ID’, b) the primary key column of ‘student’, or c) any column of ‘student’. \_\_ b) the primary key column of ‘student’\_\_\_\_\_\_\_\_\_\_\_\_\_\_

j. Write pseudocode to search a node in Binary tree?

=>To search a node in binary key,

We write the search function to search the key which has the root and the key as a parameters.

Apply the base case, using the if condition if the root is null or the root.key is present at the root then return the root.

Since, in BST we divide the tree to reduce the search, so using the if condition ;if root.key> key then we search at the left side of the tree and return the key. i.e return search(root.left,key)

If the key is smaller or the root.key<key then search at thr right hand side and return search  
(root.right,key)

Hence we will get the node.

k. Submit the proof (snapshot of transcript) showing SJSU ID and prerequisite CS146 with grade C- or better.



