

COLUMNS OF TABLES HAVE DATA TYPES

THESE DATA TYPES ARE SPECIFIED WHEN THE
TABLE IS CREATED

THESE DATA TYPES GOVERN HOW A
COLUMN IS TREATED IN SQL QUERIES

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COLUMN IS TREATED IN SQL QUERIES

CHAR, VARCHAR, DATETIME, DATE
AND TIME VALUES ALL NEED TO BE
ENCLOSED IN **SINGLE QUOTES**

```
SELECT EMAIL FROM STUDENTS WHERE GENDER = 'F' ;
```

CHAR, VARCHAR, DATETIME, DATE AND TIME VALUES
ALL NEED TO BE ENCLOSED IN SINGLE QUOTES

HMM..OKEY-DOKEY - BUT WHAT IF A
STRING CONTAINS A SINGLE QUOTE?

```
SELECT STUDENTID FROM CAMPUS_HOUSING WHERE  
DORMITORYNAME = 'AKBAR'S HOUSE' ;
```

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NO PROBLEM! JUST 'ESCAPE' THE
SINGLE QUOTE WITH A PRECEDING
BACKSLASH!

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OH, BTW ON SOME SYSTEMS
'ESCAPE' THE SINGLE QUOTE WITH
ANOTHER PRECEDING SINGLE QUOTE!

```
SELECT STUDENTID FROM CAMPUS_HOUSING WHERE  
DORMITORYNAME = 'AKBAR' 'S HOUSE' ;
```

BACK TO OUR TWO TABLES

THIS IS A TABLE NAMED 'CAMPUS_HOUSING'

StudentID	DormitoryName	AptNumber
1	Gandhi House	110
2	Akbar Hall	231
3	Gandhi House	345
4	NULL	NULL

COLUMNS ARE NAMED 'STUDENTID', 'DORMITORYNAME', 'APTNUMBER'

THIS IS A TABLE NAMED 'STUDENTS'

StudentID	FirstName	LastName	Gender	Email
1	Janani	Ravi	F	janani@loonycorn.com
2	Swetha	Kolalapudi	F	swetha@loonycorn.com
3	Navdeep	Singh	M	navdeep@loonycorn.com
4	Vitthal	Srinivasan	M	vitthal@loonycorn.com

COLUMNS ARE NAMED 'STUDENTID', 'FIRSTNAME', 'LASTNAME', 'GENDER' AND 'EMAIL'

THERE WAS A LOT TO TAKE IN

SOME COLUMNS CONTAIN STRINGS

OTHERS CONTAIN NUMBERS

SOME CELLS CONTAIN THE VALUE 'NULL'

THE TWO TABLES ARE LINKED VIA THE
COLUMN STUDENTID

SOME CELLS CONTAIN THE VALUE 'NULL'

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1	Gandhi House	110
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4	NULL	NULL

NULL IMPLIES THAT A VALUE DOES
NOT EXIST

SOME CELLS CONTAIN THE VALUE 'NULL'

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1	Gandhi House	110
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NULL IMPLIES THAT A VALUE **DOES NOT EXIST**

NULL IS NOT THE SAME AS A BLANK STRING OR ZERO!!

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StudentID	DormitoryName	AptNumber
1	Gandhi House	110
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4	NULL	NULL

NULL IMPLIES THAT A VALUE **DOES NOT EXIST**

NULL IS **NOT** THE SAME AS A BLANK STRING OR ZERO!!

A BLANK STRING OR ZERO IS A VALUE THAT EXISTS, **NULL SIMPLY DOES NOT EXIST**

**ANY COLUMN CAN CONTAIN A
VALUE OF NULL..**

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..PROVIDED THE TABLE HAS BEEN DEFINED
IN A WAY THAT ALLOWS NULL VALUES IN
THAT COLUMN

NULL IS NEITHER TRUE NOR FALSE,
ITS JUST NULL

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ITS JUST NULL

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FIND ALL STUDENTIDS WHERE THE
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**FIND ALL STUDENTIDS WHERE THE
DORMITORY NAME IS NULL**

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**WHICH
ROWS?**

**WHERE DORMITORY
NAME IS NULL**

**WHICH
COLUMNS?
STUDENTID**

**WHICH
TABLES?
CAMPUS_HOUSING**

**FIND ALL STUDENTIDS WHERE THE
DORMITORY NAME IS NULL**

```
SELECT STUDENTID FROM CAMPUS_HOUSING WHERE  
DORMITORYNAME = NULL;
```

**WHICH
ROWS?**

**WHERE DORMITORY
NAME IS NULL**

**WHICH
COLUMNS?
STUDENTID**

**WHICH
TABLES?
CAMPUS_HOUSING**

FIND ALL STUDENTIDS WHERE THE
DORMITORY NAME IS NULL

SELECT STUDENTID FROM CAMPUS HOUSING WHERE
~~DORMITORYNAME IS NULL;~~

YEP! THAT'S WHEN YOU WANT TO GET FOR
WRONG! WRONG! NULL! WRONG!

FIND ALL STUDENTIDS WHERE THE
DORMITORY NAME IS NOT NULL

```
SELECT STUDENTID FROM CAMPUS HOUSING WHERE  
DOORNOORNAME DORMITORYNAME < NOT NULL ;
```

YEP! THAT'S THE WAY TO DO IT! FOR
WRONG! NOT NULL WRONG!