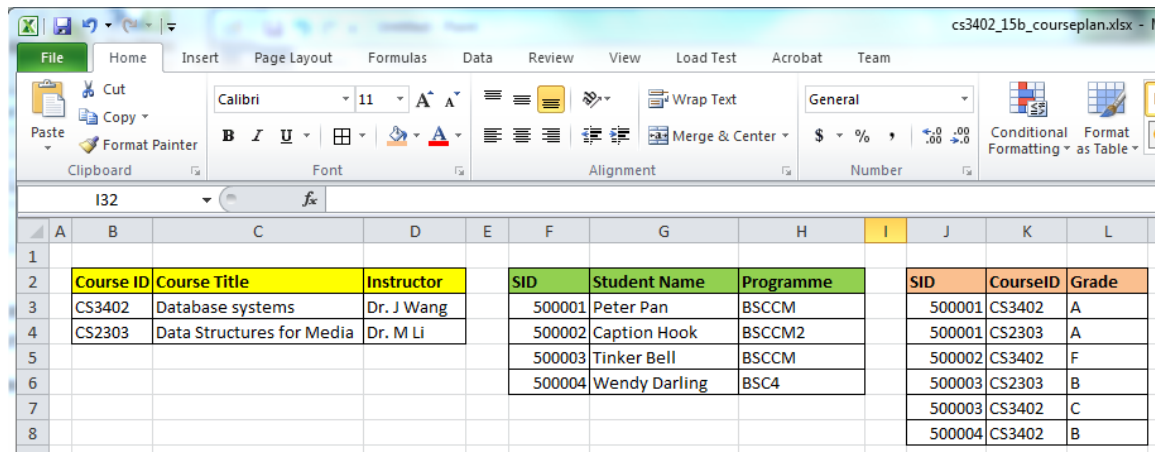


## CS3402 Tutorial 1 (Introduction and ER Model):

1. Below are some sample data stored in an Excel file.
  - (a) Identify *entity*, *entity set*, *attribute*, *relationship*, *relationship set* in this application.
  - (b) Are there any *integrity constraints* in this application? If so, is it easy to ensure that these constraints are not violated in MS Excel?



The screenshot shows an Excel spreadsheet with two tables. The first table, located in rows 2-4, lists courses with columns for Course ID, Course Title, and Instructor. The second table, located in rows 3-8, lists students with columns for SID, Student Name, Programme, and Grade. The data is as follows:

Course ID	Course Title	Instructor	SID	Student Name	Programme	SID	CourseID	Grade
CS3402	Database systems	Dr. J Wang	500001	Peter Pan	BSCCM	500001	CS3402	A
CS2303	Data Structures for Media	Dr. M Li	500002	Caption Hook	BSCCM2	500002	CS2303	A
			500003	Tinker Bell	BSCCM	500003	CS3402	F
			500004	Wendy Darling	BSC4	500004	CS2303	B
						500003	CS3402	C
						500004	CS3402	B

2. Construct an ER diagram for a car insurance company. Each customer (i.e. person) owns a number of cars, each of which has a unique license number, and we also keep track of the year and model. We store the SSN, address, and name for each person. Each car has a number of recorded accidents. You can assume the following:
  - It is possible that some cars in the company do not belong to any customer.
  - An accident may involve more than one car.
  - A car may be owned by more than one customer.
3. Construct an ER diagram for a hospital with a set of patients and a set of medical doctors. A log of the various conducted tests and results is associated with each patient. For each patient, store SSN, name, insurance, date-admitted, and date-checked-out. You can assume the following:
  - A patient may have more than one doctor. For each doctor we store a unique DSS, the name, and the specialization.
  - Each test has a unique test ID, a date, time, and a result.