ComS 363 Fall 2022
Class Participation for Week 2

Learning objective: To see examples of how SQL queries can be used to answer complex questions.
Instructions: Group queries that give the same results together without using MySQL on the threetables database. Put the query ID, A, B, .. F, into the groups below. The group description does not mention all the attributes in the output. Each group must have at least one letter.
Group 1: Employees not assigned to work for any department: A, H, D
Group 2: Employee(s) who manage(s) the department with the largest budget: B
Group 3: Department(s) and the maximum salary of employees who work for that department: C
Group 4: Employee(s) who work(s) in both "Production" and "Maintenance" departments: E, G, I
Group 5: Employee(s) who works for all the departments: F

-- A select e.eid from emp e left join works w on e.eid=w.eid where w.eid is null;	-- F SELECT w.eid, count(distinct w.did) as cnt FROM works w group by w.eid having cnt = (select count(*) from dept);
-- B. select e.eid, e.ename from dept d, emp e where d.budget = (select max(budget) from dept) and d.managerid=e.eid;	-- G select w1.eid from works w1 inner join dept d1 on w1.did=d1.did and d1.dname="Production" and w1.eid in (select w2.eid from works w2, dept d2 where w2.did = d2.did and d2.dname = "Maintenance");
-- C. select w.did, d.dname, max(salary) from emp e, works w, dept d where e.eid = w.eid and w.did = d.did group by w.did	-- H select eid from emp e where not exists (select * from works w where w.eid=e.eid);
-- D select eid from emp where eid not in (select distinct eid from works);	-- I select w1.eid from works w1 inner join dept d1 on w1.did=d1.did and d1.dname="Production" and exists (select * from works w2, dept d2 where w2.did = d2.did and d2.dname = "Maintenance" and w1.eid=w2.eid);

-- E
select w1.eid
from works w1, works w2, dept d1, dept d2
where w1.eid = w2.eid and
   w1.did = d1.did and
d1.dname="Production"
   and w2.did = d2.did and
d2.dname="Maintenance";
	You can test these queries using the threetables database.
	To show results for some queries, execute the following statement.
	
	insert into emp (eid, ename, salary) values
	(120, 'Pak', 4000000);
	insert into emp values
	(121, 'Liam', 4000000);
	insert into works values (121,1, 10), (121,2, 10), (121,3, 10),
	(121,4, 20), (121, 5, 20), (121, 6, 20);