SQL Assignment – 135409

1.

π *snum*, *name* σ *e* . *classname* = “IT3292E *Database* 20221” *AND* s . *major* = “CS”( ρs(student) ⋈ ρ*e (enrolled)*)

2.

πs .*snum*, s .*names*  
 σs .*major*= "CS"*AND*c .*name*= "IT3292E*Database*"*AND*c .*semester*= "2022.1"  
  (ρs*student* ⋈s .*snum*= e .*snum*  
   ρe*enrolled* ⋈c .*name*= e .*class*\_name  
    ρc*class*)

3.

τs .*snum*  
 πs .*snum*, s .*name*  
  σc .*room*= "D9-205"*OR*(f .*name*= "Prof.*Nguyen*"*AND*f .*dept*= "Computer*Science*")  
   (ρs*student* ⋈s .*snum*= e .*snum*  
    ρe*enrolled* ⋈c .*name*= e .*class*\_name  
     ρc*class* ⋈c .*fid*= f .*fid*  
      ρf*faculty*\_member)

4.

δ  
 π*s1*.*snum*,*s1*.*name*,*s2*.*snum*,*s2*.*name*  
  (ρ*e1**enrolled* ⋈*e1*.*class*\_name =*e2*.*class*\_name*AND**e1*.*snum*<*e2*.*snum*  
   ρ*e2**enrolled* ⋈*s2*.*snum*=*e2*.*snum*  
    ρ*s2**student* ⋈*s1*.*snum*=*e1*.*snum*  
     ρ*s1**student*)

5.

δ  
 πs .*snum*, s .*name*,*c1*.*name*,*c2*.*name*  
  σ*e1*.*snum*=*e2*.*snum*  
   (ρ*c1**class* ⋈*c1*.*week*\_day =*c2*.*week*\_day*AND**c1*.*start*\_time =*c2*.*start*\_time*AND**c1*.*name*<*c2*.*name*  
    ρ*c2**class* ⋈*e1*.*class*\_name =*c1*.*name*  
     ρ*e1**enrolled* ⋈*e2*.*class*\_name =*c1*.*name*  
      ρ*e2**enrolled* ⋈*e1*.*snum*= s .*snum*  
       ρs*student*)

6.

πf .*fid*, f .*name*  
 σ*COUNT*(\delta*week*\_day) = 6  
  γ*name*,*fid*,*COUNT*(\delta*week*\_day)  
   (ρf*faculty*\_member ⋈f .*fid*= c .*fid*  
    ρc*class*)

7.

γ*level*,*AVG*(age)  
 ρs*student*

8.

πf .*fid*, f .*name*, c .*semester*,*COUNT*(semester)  
 σ*COUNT*(semester) > 4  
  γ*semester*,*fid*,*name*,*COUNT*(semester)  
   (ρf*faculty*\_member ⋈c .*fid*= f .*fid*  
    ρc*class*)

9.

10.

δ  
 τs .*snum*  
  πs .*snum*, s .*name*  
   σ*NOT*(f .*dept*= "Computer*Science*")  
    (ρs*student* ⋈e .*snum*= s .*snum*  
     ρe*enrolled* ⋈e .*class*\_name = c .*name*  
      ρc*class* ⋈c .*fid*= f .*fid*  
       ρf*faculty*\_member)