1. $\pi_{\text{Instr\_FName, Instr\_LName, Instr\_Phone}}$ (INSTUCTOR $\bowtie$ CLASS $\bowtie$ TRAINING)

2. $\pi_{\text{Emp\_ID, Emp\_FName, Emp\_LName}}$ ($\sigma_{\text{Grade = 'R' AND (Sem\_Compltd = 'Spr 2020' OR Sem\_Compltd = 'Fall 2020')}}$
(EMPLOYEE $\bowtie$ TRAINING))

3. $\pi_{\text{Emp\_ID, Emp\_FName, Emp\_LName}}$ ($\sigma_{\text{Crs\_Title = 'Database Mangagement' AND Grade ! = 'R'}}$
((EMPLOYEE $\bowtie$ TRAINING) $\bowtie$ COURSE))

4. $\pi_{\text{Emp\_ID, Emp\_FName, Emp\_LName}}$
($\sigma_{\text{(Grade = 'A+' OR Grade = 'A' OR Grade = 'A-') AND (Sem\_Compltd = 'Spr 2020' OR Sem\_Compltd = 'Fall 2020')}}$
(EMPLOYEE $\bowtie$ TRAINING)
$-$
$\pi_{\text{Emp\_ID, Emp\_FName, Emp\_LName}}$ ($\sigma_{\text{Grade = 'R'}}$ (EMPLOYEE $\bowtie$ TRAINING))

5. $\pi_{\text{Instr\_ID, Instr\_FName, Instr\_LNeme}}$
($\sigma_{\text{Crs\_Title = 'Internet Marketing'}}$ ((INSTRUCTOR $\bowtie$ CLASS) $\bowtie$ COURSE))
$-$
$\pi_{\text{Instr\_ID, Instr\_FName, Instr\_LNeme}}$
($\sigma_{\text{Crs\_Title = 'Marketing'}}$ ((INSTRUCTOR $\bowtie$ CLASS) $\bowtie$ COURSE))

6. $\pi_{\text{Emp\_ID, Emp\_FName, Emp\_LName, Crs\_Title, College\_Name}}$
(EMPLOYEE
$\pi_{\text{Emp\_ID, Crs\_Title, College\_Name}}$ ($\sigma_{\text{Sem\_Cmpltd = 'Spr 2020' OR Sem\_Cmpltd = 'Fall 2020'}}$ (COURSE $\bowtie$ TRAINING)))

7. $\pi_{\text{Crs\_ID, Crs\_Title, College\_Name}}$ (COURSE)
$-$
$\pi_{\text{Crs\_ID, Crs\_Title, College\_Name}}$ ((COURSE $\bowtie$ TRAINING)

8. $\pi_{\text{Emp\_ID, Emp\_FName, Emp\_LNaame, Crs\_Title, College\_Name}}$ ((COURSE $\bowtie$ TRAINING) $\bowtie$ EMPLOYEE)
$\div$
$\pi_{\text{College\_Name}}$ (COURSE)

9. $\pi_{\text{Crs\_ID, Crs\_Title, Crs\_Type, Emp\_ID}}$ ($\sigma_{\text{Sem\_Cmpltd = 'Fall 2020'}}$ (COURSE $\bowtie$ TRAINING)
$\bowtie$
$\pi_{\text{E}_1\text{.Sup\_ID}}$ ($\sigma_{\text{E}_1\text{.Emp\_ID = E}_2\text{.Emp\_ID AND E}_2\text{.Emp\_FName = 'Bill' AND E}_2\text{.Emp\_LName = 'Getz'}}$
(ρ_{E_1}(EMPOLYEE) $\times$ ρ_{E_2}(EMPOLYEE)))

10. $\pi_{\text{E}_1\text{.Emp\_ID, E}_1\text{.Emp\_FName, E}_1\text{.Emp\_LName, E}_2\text{.Emp\_ID, E}_2\text{.Emp\_FName, E}_2\text{.Emp\_LName, E}_1\text{.Crs\_Title, E}_1\text{.Sem\_Cmpltd}}$
($\sigma_{\text{E}_1\text{.Crs\_ID = E}_2\text{.Crs\_ID AND E}_1\text{.Sem\_Cmpltd = E}_2\text{.Sem\_Cmpltd AND E}_1\text{.Crs\_ID < E}_2\text{.Crs\_ID}}$
(ρ_{E_1}((EMPOLYEE $\bowtie$ TRAINING) $\bowtie$ COURSE) $\times$ ρ_{E_2}((EMPOLYEE $\bowtie$ TRAINING) $\bowtie$ COURSE)))