Assignment 1 - Part 1

Description of Design Process

Pass 1 - Find the classes of the objects

Occurrence in Specification:
1. Every faculty staff has a staff number, a name, date of birth, level of position, work in department.
2. Each project has a project number, a sponsor name (e.g., ARC, URC), a starting date, an ending date, and a budget.
3. Each student has a student number, a name, date of birth, and a degree program (e.g. BCs, or MCs or PhD).
4. Departments have department name, a main office, header of the department.

New Classes of Objects:
1. STAFF
2. PROJECT
3. STUDENT
4. DEPARTMENTS

Pass 2 - Find the Associations and Association Classes

Occurrence in Specification:
1. Each project is managed by one faculty staff.
2. Each project is worked by one or more faculty staffs.
3. Staffs can work on multiple projects.
4. Each project is worked on by one or more students (as the project's research assistants).
5. When students work on a project, a staff must supervise their work on the project. Students can work on multiple projects, in which case they will have a supervisor for each one.
6. Faculty staffs work in one or more departments, and for each department that they work in, a time percentage is associated with their job.
7. Students have one major department in which they are working on their degree.

New Associations:
1. **PROJECT** MANAGED BY *ONE* **STAFF**
2. **PROJECT** WORKED ON BY *MULTIPLE* **STAFF**
3. **STAFF** WORK ON *MULTIPLE* **PROJECT**
4. **PROJECT** WORKED ON BY *MULTIPLE* **STUDENT**
5. **STUDENT** WORK ON *MULTIPLE* **PROJECT**
6. **STAFF** WORK IN *MULTIPLE* **DEPARTMENT**
7. **STUDENT** WORKS IN *ONE* **DEPARTMENT**

Association Classes
1. STUDENTPROJECT
2. STAFFPROJECT
3. STAFFDEPARTMENT

Pass 3 - Find the Attributes

Occurrence in Specification:
1. Every faculty staff has a staff number, a name, date of birth, level of position, work in department.
2. Each project has a project number, a sponsor name (e.g., ARC, URC), a starting date, an ending date, and a budget.
3. Each student has a student number, a name, date of birth, and a degree program (e.g. BCs, or MCs or PhD).
4. Departments have department name, a main office, header of the department.

New Attributes:
1. **STAFF** (Staff Number, Staff Name, Date of Birth, Level of Position, Department)
2. **PROJECT** (Project Number, Sponsor Name, Start Date, End Date, Budget)
3. **STUDENT** (Student Number, Student Name, Date of Birth, Degree Program)
4. **DEPARTMENT** (Department Name, Main Office, Head of Department)

Pass 4 - Find the Identifiers

Occurrence in Specification:
1. Every faculty staff has a staff number, a name, date of birth, level of position, work in department.
2. Each project has a project number, a sponsor name (e.g., ARC, URC), a starting date, an ending date, and a budget.
3. Each student has a student number, a name, date of birth, and a degree program (e.g. BCs, or MCs or PhD).
4. Departments have department name, a main office, header of the department.

New Identifiers:
1. **STAFF**.ID1 = (Staff Number)
2. **PROJECT**.ID1 = (Project Number)
3. **STUDENT**.ID1 = (Student Number)
4. **DEPARTMENT**.ID1 = (Department Name)

Pass 5 - Find the Qualifications

New Qualifications:
● None

Pass 6 - Find Generalisations

New Generalisations:
● None

STUDENTPROJECT

Student Number	ID1
Project Number	ID1
Supervisor	

STUDENT

Student Number	ID1
Student Name	
Date of Birth	
Degree Program	

STAFFPROJECT

Staff Number	ID1
Project Number	ID1
Supervisor	

STAFFDEPARTMENT

Staff Number	ID1
Department Name	ID1
Time Percentage	

PROJECT

Project Number	ID1
Sponsor Name	
Start Date	
End Date	
Budget	

STAFF

Staff Number	ID1
Staff Name	
Date Of Birth	
Level Of Position	
Department	

DEPARTMENT

Department Name	ID1
Main Office	
Head Of Department	

Supervises

Is worked on by

Works in

Is worked on by

Is managed by

Works In

1..*

1..*

1..*

1..*

1..*

1..*

1...*

1..*

1..*