**Report 1:**

| UNITS CURRENTLY APPROVED | | | REPORT DATE: 22/07/2022 |
|---|---|---|---|
| **Unit Number** | **Unit Name** | **Unit Description** | **Unit Value** |
| FIT9131 | Programming Foundations | Introduction to programming | 6 |
| FIT9132 | Introduction to Databases | Database Fundamentals | 6 |
| FIT9134 | Computer Architecture and Operating Systems | Fundamentals of computer systems and the computing environment | 6 |
| FIT9135 | Data Communications | Fundamentals of data and computer communications | 6 |

\* Unit value may be either 3, 6 or 12 points

UNF:

UNIT(unit_no, unit_value ,unit_name, unit_description)

1NF:

#does  not have repeating group and has primary key

UNIT(unit_no, unit_value ,unit_name, unit_description)

CKs:

- Unit_no

Partial dependencies: there is none

#Identify partial dependencies from all candidates'key

2NF:

#same as 1NF

UNIT(unit_no, unit_value ,unit_name, unit_description)

Transitive dependencies:

No transitive dependencies

3NF

UNIT(unit_no, unit_value ,unit_name, unit_description)

Full dependencies:

Unit_no -> unit_value ,unit_name, unit_description

**Report 2:**

| LECTURER DETAILS | REPORT DATE: 22/07/2022 |
|---|---|
| **LECTURER'S NUMBER:** 10234<br>**LECTURER'S NAME:** GUISEPPE BLOGGS<br>**LECTURER'S OFFICE No.:** 169<br>**LECTURER'S PHONE No.:** 99037111 | |

**UNIT ADVISER FOR:**

| UNIT NUMBER | UNIT NAME |
|---|---|
| FIT9131 | Programming Foundations |
| FIT9134 | Computer Architecture and Operating Systems |

\* A given unit may have several advisers
\* Some lecturers share offices, although each has their own phone

UNF:

LECTURER(lecturer_no, lecturer_name,lecturer_offno,lecturer_phoneno,(unit_no, unit_name))

1NF:

CKS:

- lecturer_no
- Lecturer_phone

LECTURER(lecturer_no, lecturer_name,lecturer_offno,lecturer_phoneno)

#eliminate repeating group by creating a new relation but must add the primary key

ADVICE(lecturer_no, unit_no, unit_name)

CK:

lecturer_no,unit_no

Partial dependencies ,has to depends based on  part of candidate key

Unit_no depends on unit name.

2NF:

LECTURER(<u>lecturer_no,</u> lecturer_name,lecturer_offno,lecturer_phoneno)

ADVICE(<u>lecturer_no, unit_no</u>)

UNIT(unit_no,unit_name)

Transistive dependencies :

Lecturer_phoneno –lecturer_name, lect_officeno,lectuerer_no , however no transistive dependencies because lecturer_phoneno is a candidate key , must dependencies betwee non-key

3NF:


LECTURER(<u>lecturer_no,</u> lecturer_name,lecturer_offno,lecturer_phoneno)

ADVICE(<u>lecturer_no, unit_no</u>)

UNIT(<u>unit_no</u>,unit_name)

Full dependencies :

lecturer_no –lecturer_name, lecturer_offno, lecturer_phoneno

Unit_no – unit_name


**REPORT 3:**

| STUDENT DETAILS | | REPORT DATE: 22/07/2022 |
|---|---|---|
| **STUDENT No.:** 12345678 **STUDENT NAME:** Poindexter Jones **STUDENT ADDRESS:** 23 Wide Road, Caulfield, 3162 **COURSE ENROLLED:** MIT **MODE OF STUDY:** On-Campus **MENTOR NUMBER:** 10234 **MENTOR NAME:** Guiseppe Bloggs | | |

**ACADEMIC RECORD:**

| UNIT NUMBER | UNIT NAME | YEAR / SEMESTER | GRADE |
|---|---|---|---|
| FIT9131 | Programming Foundations | 2021/2 | N |
| FIT9131 | Programming Foundations | 2022/1 | D |
| FIT9132 | Introduction to Databases | 2022/1 | D |

\* Grade may have the value N, P, C, D or HD
\* Mode of Study must be On-campus (O) or Distance Education (D)

UNF: (stu_no, stu_name, stu_address, stu_course, stu_mode, lecturer_no, lecturer_name,(unit_no, unit_name, ar_year, ar_semester, ar_grade))

1NF:

STUDENT(stu_no, stu_name, stu_address, stu_course, stu_mode, mentor_no, mentor_name

CKS:

- Stu_no

AC_RECORD(stu_no, unit_no, year, semester ,unit_name, ar_grade)

CKS:

- Stu_no, Unit_no, semester, year

Partial dependencies:

Unit_name --> unit_no

2NF:

STUDENT(stu_no, stu_name, stu_address, stu_course, stu_mode, lecturer_no, lecturer_name)

AC_RECORD(<u>stu_no, unit_no, year, semester</u> , ar_grade)

UNIT(<u>unit_no</u>, unit_name)

Transitive dependencies:

#lecturer_no is not a candidate key here so the transitive dependencies is valid

lecturer_no --> lecturer_name

3NF:

STUDENT(<u>stu_no</u>, stu_name, stu_address, stu_course, stu_mode, lecturer_no)

AC_RECORD(<u>stu_no, unit_no, year, semester</u> , ar_grade)

LECTURER(<u>lecturer_no</u>, lecturer_name)

UNIT(<u>unit_no</u>, unit_name)

Full dependencies:

STUDENT --> <u>stu_no</u>, stu_name, stu_address, stu_course, stu_mode, lecturer_no

AC_RECORD --> <u>stu_no, unit_no, year, semester</u> , ar_grade

LECTURER --> <u>lecturer_no</u>, lecturer_name

UNIT --> <u>unit_no</u>, unit_name


CONSOLIDATION:

1. UNIT(<u>unit_no</u>, unit_value ,unit_name, unit_description)
2. LECTURER(<u>lecturer_no</u>, lecturer_name,lecturer_offno,lecturer_phoneno)
3. ADVICE(<u>lecturer_no, unit_no</u>)
4. UNIT(<u>unit_no</u>,unit_name)
5. STUDENT --> <u>stu_no</u>, stu_name, stu_address, stu_course, stu_mode, lecturer_no
6. AC_RECORD --> <u>stu_no, unit_no, year, semester</u> , ar_grade
7. LECTURER --> <u>lecturer_no</u>, lecturer_name
8. UNIT --> <u>unit_no</u>, unit_name


Merge 1, 4 , 8  because they refer to the same things have same primary key

   UNIT(<u>unit_no</u>, unit_value ,unit_name, unit_description)

Merge 2 and 7:

    9. LECTURER(<u>lecturer_no</u>, lecturer_name,lecturer_offno,lecturer_phoneno)

Final relation:

    10. UNIT(<u>unit_no</u>, unit_value ,unit_name, unit_description)
    11. LECTURER(<u>lecturer_no</u>, lecturer_name,lecturer_offno,lecturer_phoneno)
    12. ADVICE(<u>lecturer_no, unit_no</u>)
    13. STUDENT --> <u>stu_no</u>, stu_name, stu_address, stu_course, stu_mode, lecturer_no
    14. AC_RECORD --> <u>stu_no, unit_no, year, semester</u> , ar_grade