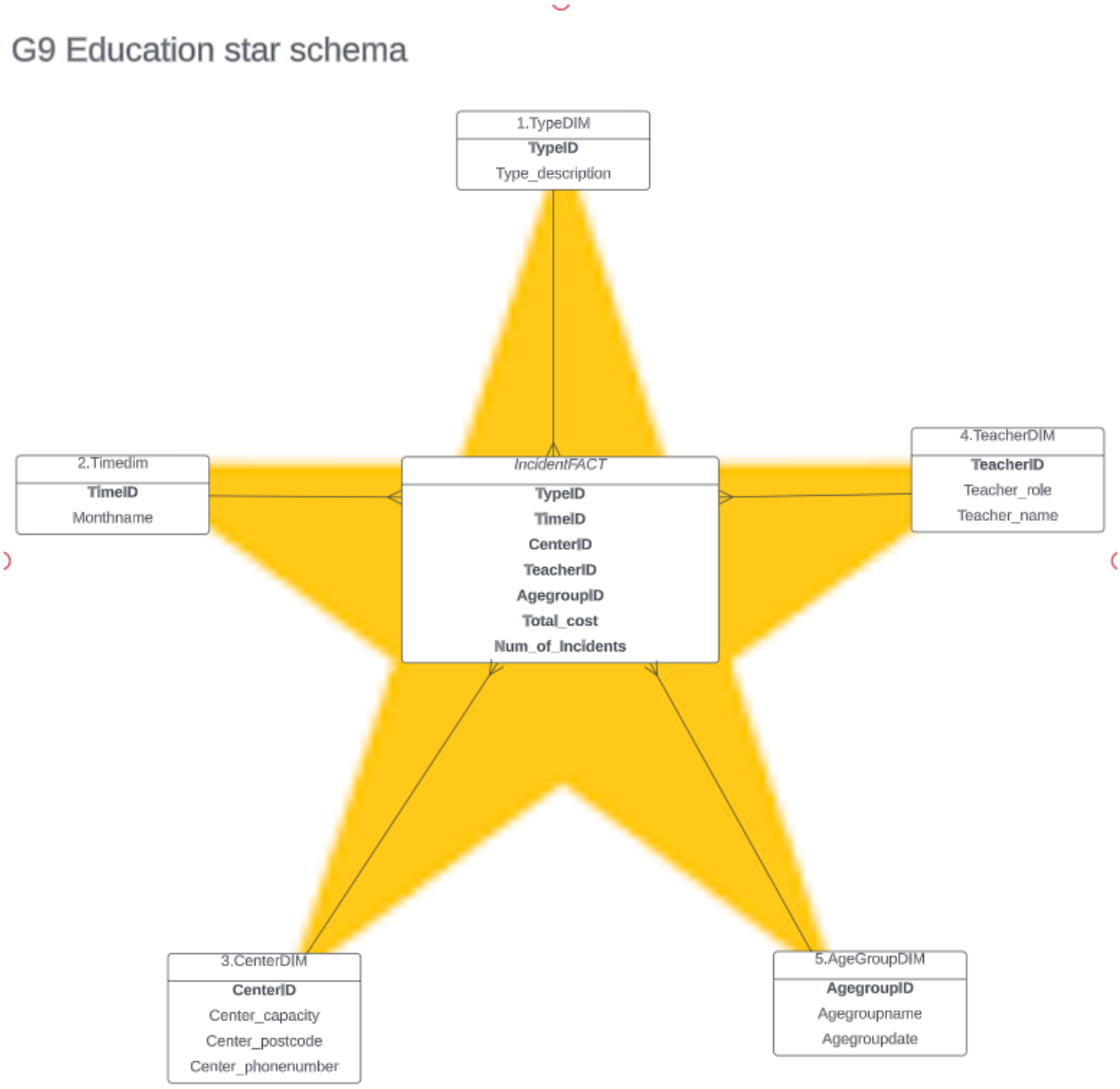
THT_ZiqiPei_33429472

Task1.TheStar schema diagram



Task2 The Two-Column Table Methodology

TypeDIM		Fact Measures
TypeID	Num of incident	TotalIncidentcost
T1	10	438
T2	87	6202
T3	116	8607
T4	112	7951

TimeDIM		Fact Measures
TimeID	Numofincident	TotalIncidentcost
05	30	3282
06	36	3897
02	103	5973
04	77	4616

CenterDIM		Fact Measures
CenterID	Numof incident	Total incident Cost
CE1	218	16147
CE2	169	11078
CE3	149	9526

TeacherrDIM		Fact Measures
TeacherID	Numof ncident	Total Incident Cost
TE1	10	438
TE2	17	1534
TE3	43	2617
TE4	38	2535

AgeGroupDIM		Fact Measures
AgegrouID	Total_incident	Total_Costs
1	222	14758
2	314	21723

Task3 The SQL commands to create all dimension and fact tables, as well as the contents

```
drop table TypeDim;
drop table TeacherDIM;
drop table centerDim;
drop table timedim;
drop table AgeGroupDim;
drop table tempfact;
drop table incidentFACT;
--Creating Dimension Tables
--Incident_Type Dimension

CREATE TABLE TypeDim AS
Select
    TypeID           AS TypeID,
    Type_description AS Typedescrption
FROM
    MonChild.incidentsType;

    select * from TYPEDIM;


--Daycare_Center Dimension
CREATE TABLE centerdim AS
SELECT
    CenterID           AS CenterID,
    Center_capacity as CenterCapacity,
    Center_postcode as CenterPostcode,
    Center_phonenumber as CenterPhoneNumber
FROM
    MonChild.Daycare_center;

    select * from centerdim;


-- Teacher Dimension
CREATE TABLE TEACHERDIM AS
SELECT
    TeacherID    As   TeacherID,
    Teacher_role As   TeacherRole,
    Teacher_name As   TeacherName
FROM
    Monchild.Teacher;

    Select * from TEACHERDIM;

--Time Dimension
CREATE TABLE timedim (
    timeid number(2),
    monthname VARCHAR2(10)
);
```

```
INSERT INTO timedim(timeid, monthname) VALUES (1, 'January');
INSERT INTO timedim(timeid, monthname) VALUES (2, 'February');
INSERT INTO timedim(timeid, monthname) VALUES (3, 'March');
INSERT INTO timedim(timeid, monthname) VALUES (4, 'April');
INSERT INTO timedim(timeid, monthname) VALUES (5, 'May');
INSERT INTO timedim(timeid, monthname) VALUES (6, 'June');
INSERT INTO timedim(timeid, monthname) VALUES (7, 'July');
INSERT INTO timedim(timeid, monthname) VALUES (8, 'August');
INSERT INTO timedim(timeid, monthname) VALUES (9, 'September');
INSERT INTO timedim(timeid, monthname) VALUES (10, 'October');
INSERT INTO timedim(timeid, monthname) VALUES (11, 'November');
INSERT INTO timedim(timeid, monthname) VALUES (12, 'December');
    Select * from Timedim;

--AgeGroupDIM Table
create table AgeGroupDim(
    Agegroupid number(1),
    Agegroupname VARCHAR2(20),
    Agegroupdate varchar2(80)

);
INSERT INTO AgeGroupDim(Agegroupid, Agegroupname, Agegroupdate)
VALUES(1,'1-2 years','Age 1 to 2');
INSERT INTO AgeGroupDim(Agegroupid, Agegroupname, Agegroupdate)
VALUES(2,'3-5 years', 'Age 3 to 5');

 Select * from AgeGroupDim;

--Creating Fact Tables:
--tempfact Fact Table
CREATE TABLE tempfact AS
SELECT
    i.incidents_cost,
    i.incidentid,
    i.typeid,
    d.centerid,
    i.teacherid,
    c.child_age,
    TO_NUMBER(to_char(i.incident_date, 'MM')) as TimeID
FROM
    monchild.children_incidents i,
    monchild.children c,
    monchild.Daycare_center d,
    monchild.teacher t
WHERE
    i.childrenid = c.childrenid and
    d.centerid = c.Centerid and
    i.teacherid = t.teacherid;


--JOIN monchild.children c ON i.childrenid = c.childrenid
--JOIN monchild.teacher t on i.teacherid = t.teacherid
--JOIN Daycare_center d ON d.centerid = c.Centerid;

--Adding agegroupid to tempfact
ALTER TABLE tempfact ADD (agegroupid number(1));

--Updating agegroupid based on age ranges
```

```
update tempfact
set agegroupid = 1
where child_age >=1 and  child_age <= 2;

update tempfact
SET agegroupid = 2
where child_age >= 3 and child_age <= 5;

select *  from tempfact;

--IncidentFACT Fact Table
CREATE TABLE IncidentFACT as
SELECT
    typeid,
    agegroupid,
    timeid,
    centerid,
    teacherid,
    COUNT(incidentid) as num_of_incidents,
    SUM(incidents_cost) as total_cost
from
    tempfact t
group by
    typeid,
    agegroupid,
    t.timeid,
    centerid,
    teacherid;

select * from IncidentFACT;
```

Contents from of screenshots

TypeDIM

	INCIDENTS_COST	INCIDENTID	...	CENTERID	TEA...	CHILD_AGE	TIMEID	AGEGROUPID
1	155	I158	T6	CE2	TE10	4	1	2
2	20	I327	T6	CE3	TE10	1	1	1
3	30	I412	T6	CE2	TE10	2	1	1

CenterDIM

	CENTERID	CENTERCAPACITY	CENTERPOSTCODE	CENTERPHONENUMBER
1	CE1	200	3004	1800978429
2	CE2	200	3131	1300168881
3	CE3	200	3068	1800222543

TeacherDIM

	TEACHERID	TEACHERROLE	TEACHERNAME
1	TE1	Early childhood teacher	Arthur Lyu
2	TE2	Assistant educator	Kyler Hardin
3	TE3	Assistant educator	Simeon Vaughn
4	TE4	Assistant educator	Gabriela Sims
5	TE5	Early childhood teacher	Madelynn Obrien
6	TE6	Assistant educator	Kaydence House
7	TE7	Early childhood teacher	Juliette Flores
8	TE8	Early childhood teacher	Markus Hanna
9	TE9	Assistant educator	Nicole Powell
10	TE10	Assistant educator	Iliana Hurst
11	TE11	Assistant educator	Zion Bird
12	TE12	Assistant educator	Kyleigh Jensen
13	TE13	Assistant educator	Jazlyn Lee
14	TE14	Assistant educator	Charlee Coleman
15	TE15	Early childhood teacher	Donovan Hill
16	TE16	Early childhood teacher	Cade Stark

TimeDIM

	TIMEID	MONTHNAME
1	1	January
2	2	February
3	3	March
4	4	April
5	5	May
6	6	June
7	7	July
8	8	August
9	9	September
10	10	October
11	11	November
12	12	December

AgeGroupDIM

	AGEGROUPID	AGEGROUPNAME	AGEGROUPDATE
1	1	1-2 years	Age 1 to 2
2	2	3-5 years	Age 3 to 5

IncidentFACT

	TYPE ID	AGEGROUP ID	TIME ID	CENTER ID	TEACHER ID	NUM_OF_INCIDENTS	TOTAL_COST
1	T2	1	3	CE2	TE6	1	146
2	T2	1	5	CE1	TE14	1	69
3	T4	2	1	CE1	TE11	2	222
4	T2	1	3	CE3	TE14	1	187
5	T3	1	5	CE2	TE5	1	197
6	T3	1	6	CE3	TE15	1	199
7	T2	1	6	CE2	TE3	1	26
8	T3	2	4	CE2	TE13	2	195
9	T4	2	2	CE1	TE13	2	101
10	T3	1	5	CE1	TE9	1	79
11	T6	2	3	CE1	TE16	1	116
12	T3	2	3	CE1	TE10	1	195
13	T2	1	3	CE2	TE3	1	138
14	T3	1	6	CE2	TE7	1	175
15	T3	2	8	CE3	TE15	1	126
16	T4	2	1	CE1	TE6	1	139
17	T5	1	8	CE1	TE2	1	127
18	T6	1	1	CE3	TE7	1	36
19	T6	2	7	CE3	TE8	1	30
20	T2	2	6	CE3	TE8	1	80
21	T4	2	4	CE1	TE11	1	130
22	T3	2	4	CE1	TE4	1	197
23	T4	2	7	CE1	TE7	1	174
24	T6	2	7	CE1	TE4	1	56
25	T4	1	2	CE1	TE6	1	72
26	T6	1	7	CE2	TE11	1	27
27	T5	1	8	CE1	TE14	1	118
28	T2	1	6	CE2	TE5	1	177
29	T6	2	1	CE1	TE13	1	118
30	T3	1	5	CE1	TE7	1	48
31	T5	2	6	CE2	TE15	1	60
32	T1	1	3	CE2	TE1	1	42
33	T5	2	1	CE3	TE12	1	55
34	T3	2	1	CE1	TE4	1	53

	TYPE ID	AGEGROUP ID	TIME ID	CENTER ID	TEACHER ID	NUM_OF_INCIDENTS	TOTAL_COST
37	T3	1	1	CE2	TE15	1	52
38	T5	2	3	CE3	TE3	1	58
39	T6	1	3	CE2	TE8	1	39
40	T6	1	3	CE2	TE3	1	14
41	T3	2	1	CE1	TE16	1	42
42	T2	2	2	CE1	TE13	1	23
43	T5	1	3	CE1	TE2	1	58
44	T3	2	1	CE1	TE13	1	29
45	T4	2	2	CE2	TE13	1	60
46	T5	1	2	CE1	TE13	2	91
47	T5	2	1	CE1	TE16	1	38
48	T6	1	4	CE2	TE12	1	26
49	T5	1	2	CE2	TE3	1	34
50	T2	2	2	CE1	TE7	1	24
51	T3	2	2	CE1	TE16	1	40
52	T2	1	4	CE2	TE10	1	10
53	T6	1	3	CE3	TE6	1	45
54	T5	2	4	CE1	TE3	1	30
55	T4	2	3	CE2	TE13	1	33
56	T6	1	3	CE1	TE7	1	33
57	T5	2	2	CE1	TE12	1	50
58	T6	1	3	CE1	TE13	1	27
59	T6	2	3	CE1	TE14	1	22
60	T2	2	1	CE2	TE11	1	29
61	T4	1	1	CE1	TE15	1	43
62	T3	2	1	CE2	TE13	1	134
63	T6	1	2	CE3	TE2	1	192
64	T3	2	5	CE1	TE3	1	172
65	T5	2	1	CE2	TE8	2	36
66	T3	1	2	CE2	TE15	2	164
67	T5	1	2	CE3	TE5	1	12
68	T2	1	8	CE1	TE15	1	148
69	T3	2	8	CE1	TE5	1	131
70	T6	2	6	CE1	TE3	1	182

Task4The SQL commands to answer the queries in Task 4 and the query results

```
--Queries:

--A show the total number of incidents and total incidents costs by age group
select
```

```
    a.agegroupid,
    a.agegroupname,
    sum(i.num_of_incidents) as total_incidents,
    sum(i.total_cost) as total_costs
from IncidentFACT i
JOIN AgegroupDim a ON i.agegroupid = a.agegroupid
GROUP BY a.agegroupid, a.agegroupname;

--B show the total number of incidents and total incident costs for the teachers where
roles are Early childhood teacher.
select
    t.teacherrole,
    SUM(i.num_of_incidents) AS total_incidents,
    SUM(i.total_cost) AS total_cost
From
    incidentFACT i
Join TEACHERDIM t on i.teacherid = t.teacherid
where t.teacherrole = 'Early childhood teacher'
group by t.teacherrole;

--C Show the total number of incident studies and total incident cost by incident type
select
    sum(i.num_of_incidents) as total_incidents,
    sum(i.total_cost) as total_cost
From incidentFACT i
    join TimeDIM t on i.timeid = t.timeid
Where t.monthname = 'May';


--D Total incidents and total incident costs by daycare center
select
    centerid,
    SUM(num_of_incidents) AS total_incidents,
    sum(total_cost) as total_cost
From incidentFACT
group by centerid;

--E Information about the teacher with the lowest number of incidents
SELECT
    l.teacherid,
    t.teachername,
    t.teacherrole,
    total_incidents,
    total_cost
From(
    SELECT
    sum(i.num_of_incidents) AS total_incidents,
    sum(i.total_cost) AS total_cost,
    teacherid
    FROM IncidentFACT i
    Group by teacherid
    order by total_incidents asc
    FETCH FIRST 1 ROWS ONLY
)L
JOIN TEACHERDIM T on l.teacherid = t.teacherid;

select
        sum(i.num_of_incidents)as total_incidents,
```

```
        sum(i.total_cost) as total_costs,
        t.teacherid,
        t.teachername,
        t.teacherrole
from
    IncidentFact i
    join TEACHERDIM t on i.teacherid = t.teacherid
group by
    t.teacherid,
    t.teachername,
    t.teacherrole
order by
    total_incidents asc
fetch first
    1 rows only
```

Query result take screenshots of the results

--A show the total number of incidents and total incidents costs by age group

	AGEGROUPID	AGEGROUPNAME	TOTAL_INCIDENTS	TOTAL_COSTS
1	1	1-2 years	222	14758
2	2	3-5 years	314	21723

--B show the total number of incidents and total incident costs for the teachers where roles are Early childhood teacher.

	TEACHERROLE	TOTAL_INCIDENTS	TOTAL_COST
1	Early childhood teacher	229	14764

--C Show the total number of incident studies and total incident cost by incident type

	TOTAL_INCIDENTS	TOTAL_COST
1	30	3282

--D Total incidents and total incident costs by daycare center

	CENTERID	TOTAL_INCIDENTS	TOTAL_COST
1	CE1	218	16147
2	CE3	149	9256
3	CE2	169	11078

--E Information about the teacher with the lowest number of incidents

	TEACHERID	TEACHERNAME	TEACHERROLE	TOTAL_INCIDENTS	TOTAL_COST
1	TE1	Arthur Lyu	Early childhood teacher	10	438