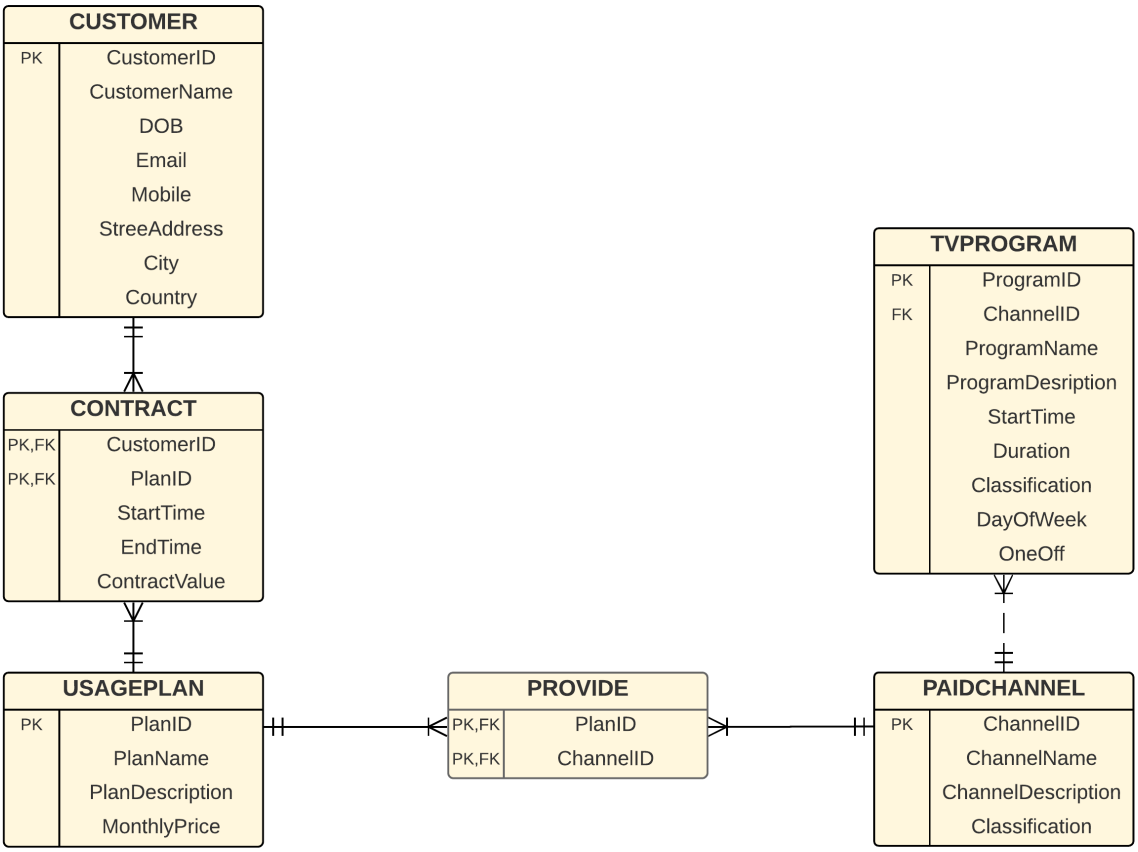
FIT3003 S2 2022

Lecture Activity

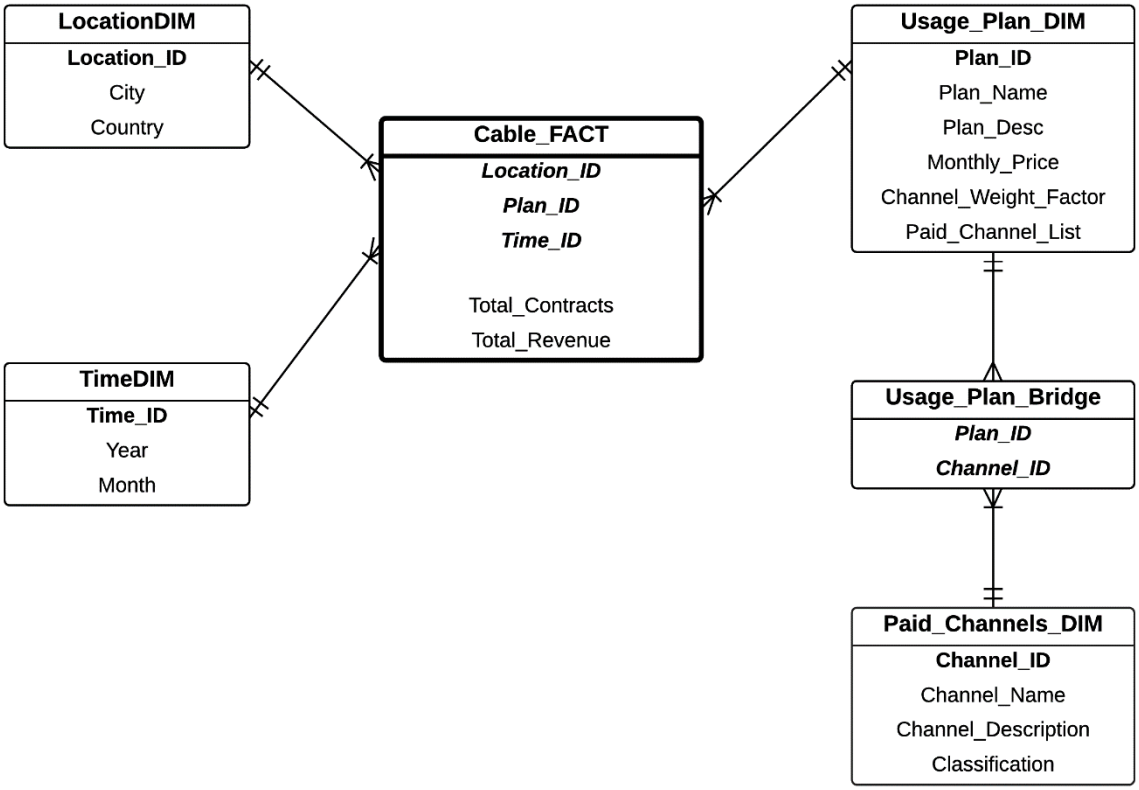
Cable Television Company

The Program Manager of a Cable Television company is interested in analysing the statistics of *paid channels revenue*. The analysis is needed for identifying which TV paid channels are more attractive to users than others. The result of the analysis will be useful to determine which channels are to be purchased in the following years. You are required to design a small Data Warehouse to keep track of the statistics. The director is particularly interested in analysing the *total number of contracts and total revenue (total contract value) by channels, locations, year and month (as in contract start time)*. The E/R diagram of the operational database is shown in the figure below.



Based on the above requirements from the Program Manager of the company, develop a star/snowflake schema. If you are using a Bridge Table, make sure you include a Weight Factor attribute and a List Aggregate attribute in your design. Write the queries to create (and populate) the dimension tables, and the fact table.

Write your answer here:




```
-- create dimensions:
create table LOCATION_DIM as
select distinct COUNTRY || CITY as LOCATION_ID, COUNTRY, CITY
from CUSTOMERS;

create table TIME_DIM as
select distinct TO_CHAR(START_TIME, 'YYYYMM') as TIME_ID,
  TO_CHAR(START_TIME, 'YYYY') as year,
  TO_CHAR(START_TIME, 'MM') as month
from CONTRACT;

create table PAID_CHANNELS_DIM as
select * from PAID_CHANNELS;

create table USAGE_PLAN_BRIDGE as
select * from PROVIDE;


create table USAGE_PLAN_DIM as
select U.PLAN_ID, U.PLAN_NAME, U.PLAN_DESC, U.MONTHLY_PRICE,
```

```
   LIST_AGG(P.CHANNEL_ID, '_') within group (order by
P.CHANNEL_ID)
     as CHANNEL_GROUP_LIST,
  1/COUNT(P.CHANNEL_ID) as CHANNEL_WEIGHT_FACTOR
from USAGE_PLAN U, PROVIDE P
where U.PLAN_ID = P.PLAN_ID
group by U.PLAN_ID, U.PLAN_NAME, U.PLAN_DESC, U.MONTHLY_PRICE;



-- create fact table
create table CABLE_FACT as
select C.COUNTRY || C.CITY as LOCATION_ID,
  TO_CHAR(T.START_TIME, 'YYYYMM') as TIME_ID,
  U.PLAN_ID,
  COUNT(*) as TOTAL_CONTRACTS,
  SUM(T.CONTRACT_VALUE) as TOTAL_REVENUE
from
  CUSTOMERS C, CONTRACT T, USAGE_PLAN U
where
  C.CUSTOMER_ID = T.CUSTOMER_ID and
  T.PLAN_ID = U.PLAN_ID
group by C.COUNTRY || C.CITY, TO_CHAR(T.START_TIME, 'YYYYMM'),
U.PLAN_ID;
```

THE END