

Advanced Databases

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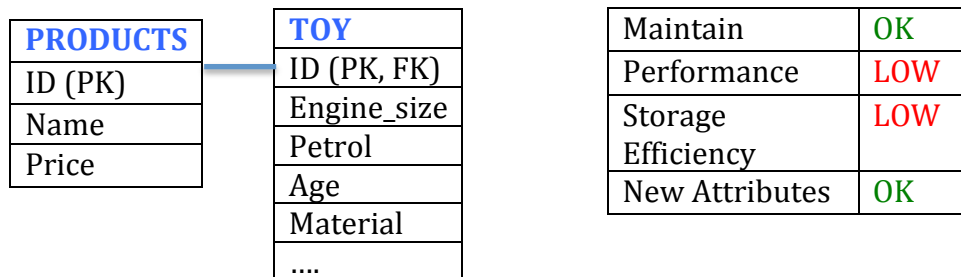
Student Number: C14386641

Course Code: DT282/4

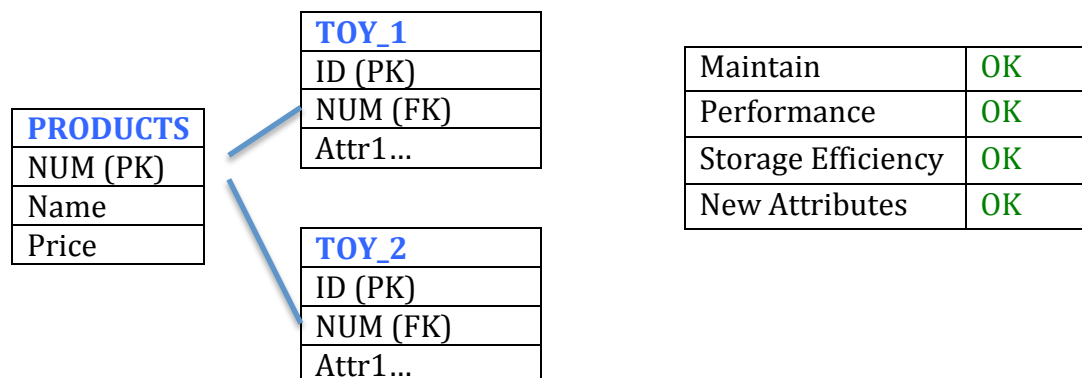
Lab: 1

Exercise 1.

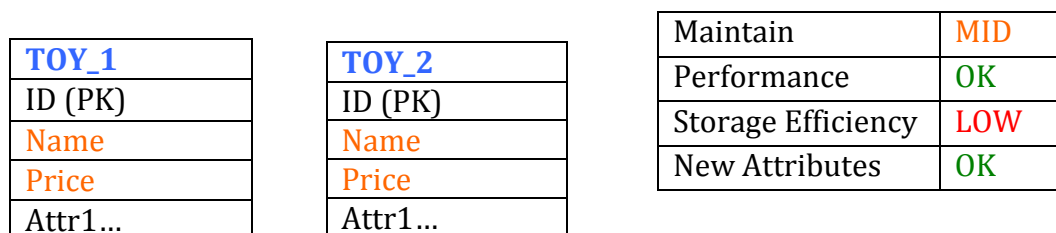
Single-Table Inheritance, common attributes are stored in PRODUCTS table and other attributes are stored in TOY, the attributes in TOY can be null. So therefor if looking at toy: car then age, material will be null. Each product can have a lot of toys, but toy can be only one product. Therefore One To Many connection.



Class-Table Inheritance, common attributes are stored in one table called PRODUCTS and then there is a table for each one of the toys, which are connected using FOREIGN KEY referenced inside each toy.



Concrete-Table Inheritance, no common attributes are stored in one table but instead there is a table for each one of the toys, which are storing all the attributes including the common ones.



Exercise 2.



TEACHER	CLASS
ID (PK)	CLASS_ID (PK)
Name	Course_code
Office	Week_day
	Start
	End
	TEACHER_ID (FK)

```

CREATE_TABLE teacher (
    ID int PRIMARY_KEY,
    Name VARCHAR2(30),
    Office VARCHAR2(10)
);

CREATE_TABLE class (
    CLASS_ID int PRIMARY_KEY,
    Course_code VARCHAR2(5),
    Week_day VARCHAR2(10),
    Start TIMESTAMP,
    End TIMESTAMP,
    Teacher_id int,
    FOREIGN_KEY(Teacher_id) REFERENCES teacher(ID)
);
    
```



CUSTOMER	ORDER
C_ID(PK)	OR_ID(PK)
Name	Product1
Address 1	...
Address 2	C_ID (FK)

```

CREATE_TABLE customer (
    C_ID int PRIMARY_KEY,
    Name VARCHAR2(30),
    Address1 VARCHAR2(10),
    Address2 VARCHAR2(10)
);

CREATE_TABLE product (
    OR_ID int PRIMARY_KEY,
    Product1 VARCHAR2(5),
    C_ID int,
    FOREIGN_KEY(C_ID) REFERENCES CUSTOMER(C_ID)
);
    
```



EMPLOYEE		CAR_BORROWED_SESSION		COMPANY_CAR
E_ID (PK)	(1,1) (0,1)	SESSION_ID (PK)	(0,1) (1,1)	REG_NUM (PK)
Name		E_ID (FK)		Brand
Position		REG_NUM (FK)		Model
Age				Year

```

CREATE_TABLE employee (
    E_ID int PRIMARY_KEY,
    Name VARCHAR2(30),
    Position VARCHAR2(10),
    Age int (3)
);

CREATE_TABLE car_borrowed_session (
    SESSION_ID int PRIMARY_KEY,
    E_ID int,
    REG_NUM VARCHAR(10),
    FOREIGN_KEY(E_ID) REFERENCES EMPLOYEE(E_ID),
    FOREIGN_KEY(REG_NUM) REFERENCES COMPANY_CAR(REG_NUM)
);

CREATE_TABLE company_car (
    REG_NUM VARCHAR(10) PRIMARY_KEY,
    Brand VARCHAR2(10),
    Model VARCHAR2(10),
    Year int(5)
);
  
```

Exercise 3.

