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M1SIAM – Big Data

Data Base Assignment, Part I:

Ski Resort



It's winter, you are surrounded with snow-covered mountains. Would you follow us for a tour in the ski resorts?

In this project, we defined a database about an overview of a ski resort built among our personal choices. First, we describe the data stored by a text to explain the application (page 1). Then, we present the UML diagram designed for our database (page 2).

A **Ski Resort** is contained in one and just one **Domain**, but a **Domain** can contain a certain number of *Ski Resort*. Also, a **Domain** is defined by a unique GPS position.

A **Ski Resort** has a unique name and has a GPS position. The **Ski Resort** disposes of at least one *Mechanical Lifts* and can be deserved by at least one *Transports*. It also can has *Buildings*, or not, that are of the following classes *Hotels*, *Restaurants* and *Shops*.

Each **Building** has unique tuple of name and address and keep the number of *Customers* coming by day. A **Building** is in one *Ski Resort* and the 3 types of building have their own attributes. The **Shop** has a type (sport shop, service shop, tourist shop, ...) and his surface in m². A **Hotel** is defined by a capacity and a level of comfort (number of stars). Finally, a **Restaurant** hold a menu list and a capacity of *Customers*.

A **Customer** is identified by a unique name, he has a gender, an age, a level, and a practice (ski, snow,...). A **Customer** can use *Transports* and go to none or many *Buildings*, may buy many or none *Ski Pass*, and take many or none *Ski Classes* in a *Ski Resort*.

A **Piste** has a unique name, a color (green, blue, red and black) and a the length of the slope. On a **Piste** can occur many or none *Ski Class*. One **Piste** is accessible from at least one *Mechanical Lift*.

A **Ski Pass**, has an unique id, a starting and ending date and a price. It allows to access some *Mechanical Lifts* (at least one). It is bought by one unique *customer*.

A **Mechanical Lift** has a unique name, it has a type (gondola lift, ski lift, button lift) and also a capacity number . It gives access to one or many *Pistes*. A **Mechanical Lift** is in one and just one *Ski Resort* and is accessible by at least one *Ski Pass* or can be in a free access.

A **Transport** is designated by a unique id, a type (bus, car or other) , we save the actual number of passenger and the total capacity of the **Transport**. It can be taken by many or none *Customers*, to come and leave the *Ski Resort* at given dates (departure and arrival), for a given cost.

A **Ski Class** involves a least one *Customers*, at least one *Instructor*, and can occur on *many or none Pistes* (*beginners are maybe not ready for taking pistes*), it has a beginning and ending date, a course level and a maximum number of participants, we also want to save its price. **Instructors** have a unique name, and a level of experience.

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