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|  | **Schemas (2nddeliverable)** |



GROUP:

CHOUKRI Zakaria

BELMOUDDEN Hajar

HANIF Maha

YOUSS Ayman

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|  | Here is the schema of the database for this project: | | | | |  |

Shipment (sid : integer, days\_of\_storage1: integer,days\_of\_storage2: integer,days\_of\_storage3: integer, pallets : string, inspection : string, net\_quantity : integer ,loading\_date\_at\_plant : date, quantity\_removed\_from\_the\_site : integer, stuffing\_date: date, sequence\_date: date, storage\_cost1: real,storage\_cost2: real,storage\_cost3: real )

Sales Transaction (od: integer, freight\_invoice1: real, freight\_invoice2: real, freight\_invoice3: real, payment\_terms: string, clearance\_date: date, payment\_terms\_days: integer, incoterm: string, total\_volume: integer ,invoice: real  ,comment: string, estimated\_fob : real ,tdate: date, real\_fob: real, sales\_order : integer, payment\_status : string)

Product (pid: integer, category: string, price: real, branding: string, bag\_size: string, weight: integer, percentage: integer)

Customer (cid: integer, contract\_id: integer, contract\_status: string, customer\_name: string, customer\_group: string)

Delivery (did: integer, region: string ,status: string, status2: string , estimated\_freight: real, country: string, discharging\_port: string , type\_tc: string, delivery\_mode: string, ac\_status: string, volume\_per\_container: string, transporter: string, real\_freight: real, transit\_time: integer,

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|  | supplier: string, shipped\_via: string, shipping\_line: string, port\_loading: string, jours\_half:real, jours\_1 : real, jours\_2: real ,jours\_3: real)  Bill of Loading (cid: integer, sid: integer, blno: integer, bldate: date)  Transports (transportid: integer, pid: integer ,did: integer )  Fulfills (fid: integer, did: integer, od: integer)  isLoaded (lid: integer, did: integer, sid: integer)  ContainsProduct (containsid : integer, pid: integer, od: integer)  BelongsTo (belongsid: integer, sid: integer, od: integer)  Records (recordid: integer, cid: integer,  od: integer)  Buys (buyid: integer, cid: integer, pid: integer) | | | | |

The table Bill of loading was added because we have the functional dependency (cid, sid -> blno & cid, sid -> bldate). That’s why we decomposed the customer entity to two tables, which are customer (contains attributes other than bldate and blno) and Bill of loading which contains the candidate key cid,sid which determines blno and bldate.

The schemas are BCNF, lossless join and dependency preserving.