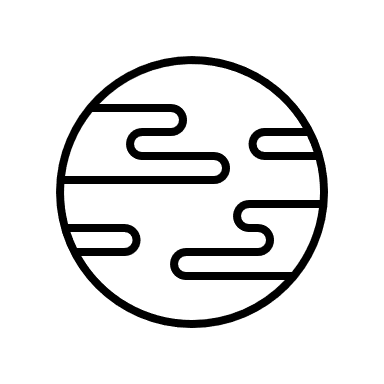
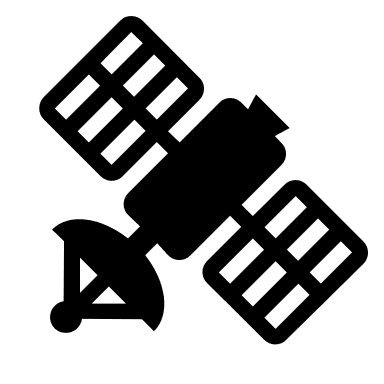
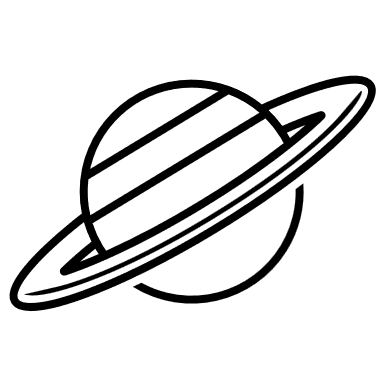
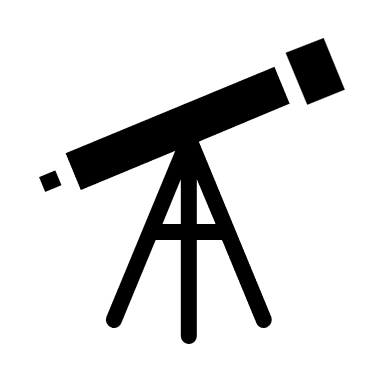
A logo of a space shuttle

AI-generated content may be incorrect.Stars in the sky with a black background

AI-generated content may be incorrect.

INPIRED BY NASA

** SPACE AGENCY**

**(Nasa inspired)**

First: members’ names:

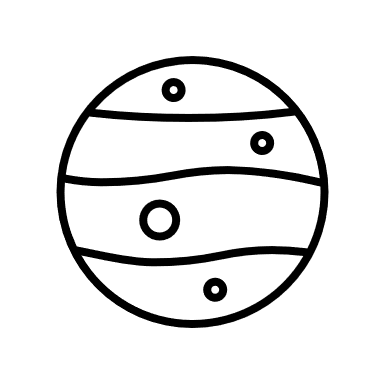
1 \_ Mohab Mamdouh kamel mosa (Computer Science).

2 \_ Youssef Wael Mostafa (Computer Science).

3 \_ Karim Mamdouh Abd al Qader (Computer Science).

4 \_ Ziad Mohammed Gomaa Youssef (Computer Science).

5 \_ Ammar Elsaied Mohammed (computer Science).

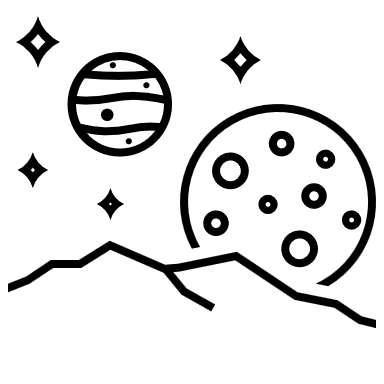
****

Second: supervisor name:

\* \_ professor/mohammed hashim.

//File contents(double click to open):

1\_team members name.txt. 5\_EER.pdf.

**** 



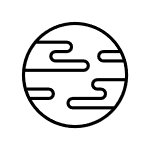
2\_data inputs. Excel. 6\_creation\_SQL file.



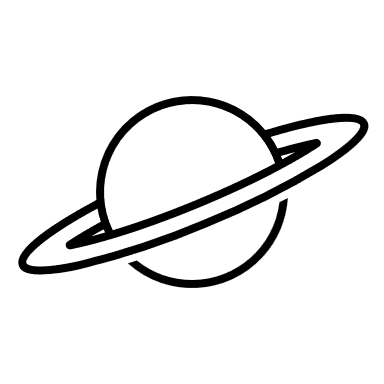


3\_EER.pdf.



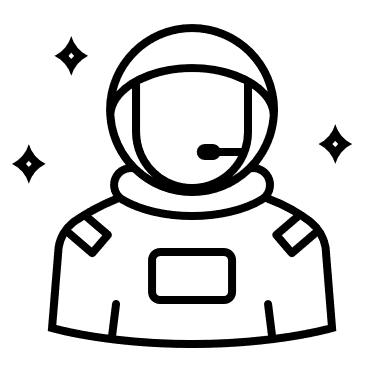
 4\_SQL model.mwb.



****

**Third: DESCRIPTION OF PROBLEM:**

**The Space Operations Mission Directorate:** is a crucial part of NASA’s operations. This directorate is responsible for maintaining a continuous human presence in space, which benefits people on Earth in numerous ways, from advancing scientific knowledge to developing new technologies.

 The programs within this directorate are at the heart of NASA’s human space exploration efforts. They enable various missions, including Artemis, commercial space initiatives, scientific research, and other agency missions.

The directorate provides a range of services to support these missions. These include communication services, which ensure that data and information can be transmitted between Earth and spacecraft; launch services, which are responsible for getting spacecraft into space; and research capabilities, which allow NASA to conduct experiments and gather data in space.

In essence, the Space Operations Mission Directorate plays a vital role in making space exploration possible and advancing our understanding of the universe. It’s a testament to the incredible work that NASA does every day. 🚀

**REQUIREMENT COLLECTION:**

The agency needs to be aware of the specific details of space operations directorate for effective management and coordination:

**1.staff(astronaut,scientist,inspector………etc):**

citizen identification number, fname, mname ,lname,{home address}: building no., street name, postal code, city, state, country, phone number {up to 3 numbers},salary, birth date(age).

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**2.partners:**(organization code, organization name, address, email address, phone number).

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3.space craft:**

(spacecraftID,name,type/class{rover, space probe,crewedspacecraft,auto},launchpad,status{active,lost,retired}, Power Source(solar ,nuclear),dimensions {size and weight},people capacity, load capacity).

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4.planet:** PlanetID (primary key), Planet Name, Type (terrestrial or gas giant), Diameter, Mass, Orbit Radius, Orbit Period, Rotation Period, Number of Moons, and Has Rings.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5.mission:** MissionID (primary key), Mission Name, Mission Type (e.g., Airborne Science, Analog Field Testing, Asteroid Deflection, Atmospheric Probe, Balloon, Commercial Crew, Commercial Resupply[), Status (e.g., active, future, past), and objective](https://www.nasa.gov/missions/).

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8.research:** research ID, name,type{e.g., Aeronautics, Space Environmental Effects, Renewable Energy and Building Energy Efficiency, Material Response Properties},findings, publications no.

**9.equipment (satellites, telescopes…………etc.):**

ID,name, Status:(e.g., active, decommissioned)., type, origin country

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**RULES:**

**1.**mission can target one planet, but it is not a must, and each planet might be explored with several missions.

**2.**research is around mission or other objectives and mission must have minimum one research as a result or more.

**3.**one spacecraft goes to several missions and at least one mission, and can be crewed or not with tracking the launch date and end date.

**4.**the members of staff work in different fields including inspector, astronaut and scientist.

**5.**the agency has several equipment including satellite, telescopes……etc.

**6.**equipment might be operated with one partner.

**7.**some partners participate in research with different fields.

SQL Model

**A diagram of a company

AI-generated content may be incorrect.**

A screenshot of a computer

AI-generated content may be incorrect.

XML Screenshot

EER

A diagram of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

Original Table Sorted with First name

DELETE Operation

A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

We selected the row we want to delete and clicked delete

A successful message appears confirming that there is no foreign keys constraints

The staff whose first name is Addie is deleted successfully.

A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

Lastly but not least the table is automatically refreshed and persisted with the new data

Data is inserted successfully with a feedback message

Filled the form with the data then clicked submit (it prevents invalid inputs)

After clicking a pop window (form) appears to fill in the data

Original Table as saved in the database , after being loaded we clicked insert

INSERT Operation

Queries Examples

A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

Example for empty response of programmers as we don’t have this job type

Staff whose first name starts with A

Staff whose salary greater than 100,000 USD

A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

Finally , a success message appears and the table is refreshed with the new data

NEW DATA

OLD DATA

A pop up window shows with the old data ready to be updated.

Choose the row you want to update then press update button

First as usual , The original Table Sorted Lexicographically by name

UPDATE Operation