2. Use the database shown in the figure below to answer the following questions.

Table

Description automatically generated

* 1. For each table, identify the primary keys and foreign keys. Write “None” or “NA” when there’s no foreign keys.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Answer here:**   |  |  |  | | --- | --- | --- | | Table | Primary Key | Foreign Key(s) | | STUDENT | StudentID | AdvisorID | | ADVISOR | AdvisorID | DeptID | | DEPARTMENT | DeptID | NA/None | |

FK: not PK in one table, but is primary key for another table

* 1. Explain entity integrity. Do the tables exhibit entity integrity?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Answer here:**  Entity integrity means \_\_ PK Values must be unique and not NULL (null = not having value)\_\_   |  |  | | --- | --- | | Table | Entity Integrity (Yes/No) | | STUDENT | **NO** (look at the repeat towards the end) | | ADVISOR | Yes | | DEPARTMENT | Yes | |

* 1. Explain referential integrity. Do the tables exhibit referential integrity? Write “None” or “NA” when there’s no foreign keys.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Answer here:**  Referential integrity means \_\_ FK values must match corresponding PK values \_\_   |  |  | | --- | --- | | Table | Referential Integrity (Yes/No) | | STUDENT | Yes | | ADVISOR | **NO** (there’s no 4 in Dept Table) | | DEPARTMENT | N/A cause no FK | |

**Graphical user interface, text, application

Description automatically generated**

* 1. Describe the relationship between STUDENT and ADVISOR. The description should include numbers to each table. For example, one CUSTOMER has many ORDERs.

|  |
| --- |
| **Answer here:**  One student has one advisor (one to one), but an advisor can have/work with many students (one to many) |

* 1. Describe the relationship between ADVISOR and DEPARTMENT. The description should include numbers to each table, and in both directions. The description should include numbers to each table. For example, one CUSTOMER has many ORDERs.

|  |
| --- |
| **Answer here:**  An advisor works in one department (one to one), but a department can have many advisors (one to many) |

* 1. Create the data model for these tables and relationships.

|  |
| --- |
| **Paste Your Answer Diagram Here:**  **Graphical user interface, application  Description automatically generated** |