**1NF:**

**STUDENT**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **student\_id** | student\_name | credits | advisor\_id | advisor\_name | **course\_code** | course\_desc | grade |
| 12345 | Jane Smith | 12 | 654 | Shirley | CIS 101 | Logic | A |
| 12345 | Jane Smith | 12 | 654 | Shirley | CIS 102 | XHTML | B |
| 12345 | Jane Smith | 12 | 654 | Shirley | CIS 110 | Visual Basic | A |
| 98765 | Thomas Last | 9 | 745 | Terry Evans | BUS 101 | Business I | B |
| 98765 | Thomas Last | 9 | 745 | Terry Evans | ENG 101 | English I | C |
| 98765 | Thomas Last | 9 | 745 | Terry Evans | ENG 102 | English II | C |
| 56789 | Robert Sim | 12 | 654 | Shirley | ACC 101 | Accounting I | B |
| 56789 | Robert Sim | 12 | 654 | Shirley | ACC 102 | Accounting II | A |
| 56789 | Robert Sim | 12 | 654 | Shirley | ENG 101 | English I | A |
| 56789 | Robert Sim | 12 | 654 | Shirley | ENG 102 | English II | A |

STUDENT (**student\_id**, student\_name, credits, advisor\_id, advisor\_name, **course\_code**, course\_desc, grade)

**2NF:**

**STUDENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **student\_id** | student\_name | credits | advisor\_id | advisor\_name |
| 12345 | Jane Smith | 12 | 654 | Shirley |
| 98765 | Thomas Last | 9 | 745 | Terry Evans |
| 56789 | Robert Sim | 12 | 654 | Shirley |

**COURSE**

|  |  |
| --- | --- |
| **course\_code** | course\_desc |
| CIS 101 | Logic |
| CIS 102 | XHTML |
| CIS 110 | Visual Basic |
| BUS 101 | Business I |
| ENG 101 | English I |
| ENG 102 | English II |
| ACC 101 | Accounting I |
| ACC 102 | Accounting II |

**STUDENT\_COURSE**

|  |  |  |
| --- | --- | --- |
| **student\_id** | **course\_code** | grade |
| 12345 | CIS 101 | A |
| 12345 | CIS 102 | B |
| 12345 | CIS 110 | A |
| 98765 | BUS 101 | B |
| 98765 | ENG 101 | C |
| 98765 | ENG 102 | C |
| 56789 | ACC 101 | B |
| 56789 | ACC 102 | A |
| 56789 | ENG101 | A |
| 56789 | ENG102 | A |

**STUDENT** (**student\_id**, student\_name, credits, advisor\_id, advisor\_name)

**COURSE** (**course\_code**, course\_desc)

**STUDENT\_COURSE** (**student\_id**, **course\_code**, grade)

FK student\_id -> STUDENT

FK course\_code -> COURSE

**3NF:  
STUDENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **student\_id** | student\_name | credits | advisor\_id |
| 12345 | Jane Smith | 12 | 654 |
| 98765 | Thomas Last | 9 | 745 |
| 56789 | Robert Sim | 12 | 654 |

**ADVISOR**

|  |  |
| --- | --- |
| **advisor\_id** | advisor\_name |
| 654 | Shirley |
| 745 | Terry Evans |

**COURSE**

|  |  |
| --- | --- |
| **course\_code** | course\_desc |
| CIS 101 | Logic |
| CIS 102 | XHTML |
| CIS 110 | Visual Basic |
| BUS 101 | Business I |
| ENG 101 | English I |
| ENG 102 | English II |
| ACC 101 | Accounting I |
| ACC 102 | Accounting II |

**STUDENT\_COURSE**

|  |  |  |
| --- | --- | --- |
| **student\_id** | **course\_code** | grade |
| 12345 | CIS 101 | A |
| 12345 | CIS 102 | B |
| 12345 | CIS 110 | A |
| 98765 | BUS 101 | B |
| 98765 | ENG 101 | C |
| 98765 | ENG 102 | C |
| 56789 | ACC 101 | B |
| 56789 | ACC 102 | A |
| 56789 | ENG101 | A |
| 56789 | ENG102 | A |

**STUDENT** (**student\_id**, student\_name, credits, advisor\_id)

FK advisor\_id -> ADVISOR

**ADVISOR** (**advisor\_id**, advisor\_name)

**COURSE** (**course\_code**, course\_desc)

**STUDENT\_COURSE** (**student\_id**, course\_code, grade)

FK student\_id -> STUDENT

FK course\_code -> COURSE