|  |
| --- |
| Employee |
| empID |
| firstName |
| lastName |
| middleName |
| job |
| salary |

|  |
| --- |
| DeptAddress |
| deptID |
| postalCode |
| streetName |
| streetNum |

|  |
| --- |
| EmpDept |
| empID |
| deptID |

|  |
| --- |
| Department |
| deptID |
| deptName |

|  |
| --- |
| Project |
| projID |
| title |
| budget |
| funds |

|  |
| --- |
| DeptPostalCodes |
| postalCode |
| city |
| province |

|  |
| --- |
| Assigned |
| empID |
| projID |
| role |

1. BCNF Decomposition:
   1. Employee Table -> took out empName and added firstName, middleName, and lastName to make it atomic (1NF).
   2. Department Table -> Removed location and created new table DeptAddress without city and province because postalCode can give these which would have been transitive dependency (3NF). Thus, another table DeptPostalCodes is added where postalCode gives the city and province.
   3. Assigned and Project are not decomposed further.
2. Primary Keys: underlined in tables gives primary keys, in the case that multiple columns are underlined these are all together a tuple that determines primary key.
3. Foreign Keys: arrows point from foreign key to the primary key of the associated table.
4. , 5) , 6) Answered in employee.sql.