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On semi-automated matching and integration of database schemas

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Appendix D

Test schemas

Purchase Order Schemas (PO)

Recipient Schema

```
CREATE TABLE `customer` (
  `custNo` int(10) unsigned NOT NULL,
  `name` varchar(70) NOT NULL,
  `city` varchar(45) NOT NULL,
  `street` varchar(50) NOT NULL,
  `zip` varchar(10) NOT NULL,
  `telephone` varchar(15) NOT NULL,
  PRIMARY KEY  (`custNo`)
)

CREATE TABLE `product` (
  `productNo` int(10) unsigned NOT NULL,
  `productName` varchar(45) NOT NULL,
  `price` varchar(45) NOT NULL,
  `stock` varchar(45) NOT NULL,
  `supplierNo` int(10) unsigned NOT NULL,
  PRIMARY KEY  (`productNo`),
  KEY `FK_product_1` (`supplierNo`),
  CONSTRAINT `FK_product_1` FOREIGN KEY
(`supplierNo`) REFERENCES `supplier`
(`supplierNo`)
)

CREATE TABLE `purchase_order` (
  `purchaseOrderNo` int(10) unsigned NOT NULL,
  `custNo` int(10) unsigned NOT NULL,
  `purchaseOrderDate` datetime NOT NULL,
```

Donor Schema

```
CREATE TABLE `buyer` (
  `buyer_No` int(10) unsigned NOT NULL,
  `f_name` varchar(45) NOT NULL,
  `l_name` varchar(45) NOT NULL,
  `phone` varchar(45) NOT NULL,
  `buyer_street` varchar(45) NOT NULL,
  `buyer_city` varchar(45) NOT NULL,
  `buyer_zip` varchar(45) NOT NULL,
  PRIMARY KEY  (`buyer_No`)
)

CREATE TABLE `item` (
  `item_no` int(10) unsigned NOT NULL,
  `item_name` varchar(45) NOT NULL,
  `cost` double NOT NULL,
  `stock` varchar(45) NOT NULL,
  `item_arrival_date` datetime NOT NULL,
  `item_color_id` int(10) unsigned NOT NULL,
  `item_size_id` int(10) unsigned NOT NULL,
  PRIMARY KEY  (`item_no`),
  KEY `FK_item_1` (`item_color_id`),
  KEY `FK_item_2` (`item_size_id`),
  CONSTRAINT `FK_item_1` FOREIGN KEY
(`item_color_id`) REFERENCES `item_color`
(`item_color_id`),
  CONSTRAINT `FK_item_2` FOREIGN KEY
(`item_size_id`) REFERENCES `item_size`
```

```
  `status` varchar(45) NOT NULL,
  `deliverDate` datetime NOT NULL,
  `deliverCity` varchar(45) NOT NULL,
  `deliverStreet` varchar(50) NOT NULL,
  `deliverZip` varchar(10) NOT NULL,
  PRIMARY KEY  (`purchaseOrderNo`),
  KEY `FK_purchase_order_1` (`custNo`),
  CONSTRAINT `FK_purchase_order_1` FOREIGN
KEY (`custNo`) REFERENCES `customer` (`custNo`)
)

CREATE TABLE `purchase_order_line` (
  `purchaseOrderLineNo` int(10) unsigned NOT
NULL,
  `purchaseOrderNo` int(10) unsigned NOT NULL,
  `productNo` int(10) unsigned NOT NULL,
  `quantity` int(10) unsigned NOT NULL,
  `deliverDate` datetime NOT NULL,
  PRIMARY KEY  (`purchaseOrderLineNo`),
  KEY `FK_purchase_order_line_1`
(`purchaseOrderNo`),
  KEY `FK_purchase_order_line_2` (`productNo`),
  CONSTRAINT `FK_purchase_order_line_1`
FOREIGN KEY (`purchaseOrderNo`) REFERENCES
`purchase_order` (`purchaseOrderNo`),
  CONSTRAINT `FK_purchase_order_line_2`
FOREIGN KEY (`productNo`) REFERENCES
`product` (`productNo`)
)

CREATE TABLE `supplier` (
  `supplierNo` int(10) unsigned NOT NULL,
  `supplierName` varchar(70) NOT NULL,
  `supplierAddress` varchar(80) NOT NULL,
  PRIMARY KEY  (`supplierNo`)
)
```

```
(`item_size_id`)
)

CREATE TABLE `item_color` (
  `item_color_id` int(10) unsigned NOT NULL,
  `color_description` varchar(45) NOT NULL,
  PRIMARY KEY  (`item_color_id`)
)

CREATE TABLE `item_size` (
  `item_size_id` int(10) unsigned NOT NULL,
  `size_description` varchar(45) NOT NULL,
  PRIMARY KEY  (`item_size_id`)
)

CREATE TABLE `po` (
  `po_no` int(10) unsigned NOT NULL,
  `buyer_no` int(10) unsigned NOT NULL,
  `item_no` int(10) unsigned NOT NULL,
  `deliver_street` varchar(45) NOT NULL,
  `deliver_city` varchar(45) NOT NULL,
  `deliver_zip` varchar(10) NOT NULL,
  `deliver_date` datetime NOT NULL,
  PRIMARY KEY  (`po_no`),
  KEY `FK_po_1` (`buyer_no`),
  KEY `FK_po_2` (`item_no`),
  CONSTRAINT `FK_po_1` FOREIGN KEY
(`buyer_no`) REFERENCES `buyer` (`buyer_No`),
  CONSTRAINT `FK_po_2` FOREIGN KEY
(`item_no`) REFERENCES `item` (`item_no`)
)
```

Hotel Schemas (HOTEL)

Recipient Schema

```
CREATE TABLE `num_beds` (
  `numBedsID` varchar(50) NOT NULL,
  `numBedsAttrib` varchar(50) default NULL,
  PRIMARY KEY  (`numBedsID`)
)

CREATE TABLE `one_room` (
  `oneRoomID` varchar(50) NOT NULL,
  `roomNum` varchar(50) default NULL,
  `hasNumBedsAttribID` varchar(50) default NULL,
  `hasOnFloorAttribID` varchar(50) default NULL,
  `hasSmokingPreferenceAttribID` varchar(50) default
NULL,
  PRIMARY KEY  (`oneRoomID`),
  KEY `hasNumBedsAttribID`
```

Donor Schema

```
CREATE TABLE `num_beds_attribute` (
  `numBedsAttributeID` varchar(50) NOT NULL,
  `numBedsAttrib` varchar(50) default NULL,
  PRIMARY KEY  (`numBedsAttributeID`)
)

CREATE TABLE `on_floor_attribute` (
  `onFloorAttributeID` varchar(50) NOT NULL,
  `onFloorAttrib` varchar(50) default NULL,
  PRIMARY KEY  (`onFloorAttributeID`)
)

CREATE TABLE `room` (
  `roomID` varchar(50) NOT NULL,
  `roomNum` varchar(50) default NULL,
```

```
(`hasNumBedsAttribID`),
  KEY `hasOnFloorAttribID` (`hasOnFloorAttribID`),
  KEY `hasSmokingPreferenceAttribID`
(`hasSmokingPreferenceAttribID`),
  CONSTRAINT `oneroom_ibfk_1` FOREIGN KEY
(`hasNumBedsAttribID`) REFERENCES `numbeds`
(`numBedsID`),
  CONSTRAINT `oneroom_ibfk_2` FOREIGN KEY
(`hasOnFloorAttribID`) REFERENCES `onfloor`
(`onFloorID`),
  CONSTRAINT `oneroom_ibfk_3` FOREIGN KEY
(`hasSmokingPreferenceAttribID`) REFERENCES
`smokingpreference` (`smokingPreferenceID`)
)

CREATE TABLE `on_floor` (
  `onFloorID` varchar(50) NOT NULL,
  `onFloorAttrib` varchar(50) default NULL,
  PRIMARY KEY  (`onFloorID`)
)

CREATE TABLE `smoking_preference` (
  `smokingPreferenceID` varchar(50) NOT NULL,
  `smokingPreferenceAttrib` varchar(50) default
NULL,
  PRIMARY KEY  (`smokingPreferenceID`)
)

CREATE TABLE `suite` (
  `suiteID` varchar(50) NOT NULL,
  `roomNum` varchar(50) default NULL,
  `hasNumBedsAttribID` varchar(50) default NULL,
  `hasOnFloorAttribID` varchar(50) default NULL,
  `hasSmokingPreferenceAttribID` varchar(50) default
NULL,
  PRIMARY KEY  (`suiteID`),
  KEY `hasNumBedsAttribID`
(`hasNumBedsAttribID`),
  KEY `hasOnFloorAttribID` (`hasOnFloorAttribID`),
  KEY `hasSmokingPreferenceAttribID`
(`hasSmokingPreferenceAttribID`),
  CONSTRAINT `suite_ibfk_1` FOREIGN KEY
(`hasNumBedsAttribID`) REFERENCES `numbeds`
(`numBedsID`),
  CONSTRAINT `suite_ibfk_2` FOREIGN KEY
(`hasOnFloorAttribID`) REFERENCES `onfloor`
(`onFloorID`),
  CONSTRAINT `suite_ibfk_3` FOREIGN KEY
(`hasSmokingPreferenceAttribID`) REFERENCES
`smokingpreference` (`smokingPreferenceID`)
)

CREATE TABLE `town_house` (
  `townHouseID` varchar(50) NOT NULL,
  `roomNum` varchar(50) default NULL,
  `hasNumBedsAttribID` varchar(50) default NULL,
  `hasOnFloorAttribID` varchar(50) default NULL,
  `hasSmokingPreferenceAttribID` varchar(50) default
NULL,
  `numBedsAttribID` varchar(50) default NULL,
  `smokingOrNoAttribID` varchar(50) default
NULL,
  `onFloorAttribID` varchar(50) default NULL,
  `sizeOfRoomAttribID` varchar(50) default NULL,
  PRIMARY KEY  (`roomID`),
  KEY `numBedsAttribID` (`numBedsAttribID`),
  KEY `smokingOrNoAttribID`
(`smokingOrNoAttribID`),
  KEY `onFloorAttribID` (`onFloorAttribID`),
  KEY `sizeOfRoomAttribID`
(`sizeOfRoomAttribID`),
  CONSTRAINT `room_ibfk_1` FOREIGN KEY
(`numBedsAttribID`) REFERENCES
`numbedsattribute` (`numBedsAttributeID`),
  CONSTRAINT `room_ibfk_2` FOREIGN KEY
(`smokingOrNoAttribID`) REFERENCES
`smokingattribute` (`smokingAttributeID`),
  CONSTRAINT `room_ibfk_3` FOREIGN KEY
(`onFloorAttribID`) REFERENCES
`onfloorattribute` (`onFloorAttributeID`),
  CONSTRAINT `room_ibfk_4` FOREIGN KEY
(`sizeOfRoomAttribID`) REFERENCES
`sizeofroomattribute` (`sizeOfRoomAttributeID`)
)

CREATE TABLE `size_of_room_attribute` (
  `sizeOfRoomAttributeID` varchar(50) NOT
NULL,
  `sizeOfRoomAttrib` varchar(50) default NULL,
  PRIMARY KEY  (`sizeOfRoomAttributeID`)
)

CREATE TABLE `smoking_attribute` (
  `smokingAttributeID` varchar(50) NOT NULL,
  `smokingAttrib` varchar(50) default NULL,
  PRIMARY KEY  (`smokingAttributeID`)
)
```

PRIMARY KEY (`townHouseID`), KEY `hasNumBedsAttribID` (`hasNumBedsAttribID`), KEY `hasOnFloorAttribID` (`hasOnFloorAttribID`), KEY `hasSmokingPreferenceAttribID` (`hasSmokingPreferenceAttribID`), CONSTRAINT `townhouse_ibfk_1` FOREIGN KEY (`hasNumBedsAttribID`) REFERENCES `numbeds` (`numBedsID`), CONSTRAINT `townhouse_ibfk_2` FOREIGN KEY (`hasOnFloorAttribID`) REFERENCES `onfloor` (`onFloorID`), CONSTRAINT `townhouse_ibfk_3` FOREIGN KEY (`hasSmokingPreferenceAttribID`) REFERENCES `smokingpreference` (`smokingPreferenceID`))	

Biology Schemas (SDB)

Recipient Schema	**Donor Schema**
CREATE TABLE `animal_donor` (`animalID` varchar(50) NOT NULL, `strain` varchar(50) default NULL, `species` varchar(50) default NULL, PRIMARY KEY (`id`), CONSTRAINT `animal_donor_ibfk_1` FOREIGN KEY (`id`) REFERENCES `donor` (`id`)) CREATE TABLE `diagnoses` (`diagID` varchar(50) NOT NULL, `donor` varchar(50) default NULL, PRIMARY KEY (`diagID`), KEY `donor` (`donor`), CONSTRAINT `diagnoses_ibfk_1` FOREIGN KEY (`donor`) REFERENCES `human_donor` (`humanID`)) CREATE TABLE `donor` (`id` varchar(50) NOT NULL, `gender` varchar(50) default NULL, `species` varchar(50) default NULL, PRIMARY KEY (`id`)) CREATE TABLE `family_history` (`histID` varchar(50) NOT NULL, `donor` varchar(50) default NULL, PRIMARY KEY (`histID`), KEY `donor` (`donor`), CONSTRAINT `family_history_ibfk_1` FOREIGN KEY (`donor`) REFERENCES `human_donor` (`id`)	CREATE TABLE `diagnoses` (`diagID` varchar(50) NOT NULL, `visitUpdate` varchar(50) default NULL, PRIMARY KEY (`diagID`), KEY `visitUpdate` (`visitUpdate`), CONSTRAINT `diagnoses_ibfk_1` FOREIGN KEY (`visitUpdate`) REFERENCES `visit_update` (`updateID`)) CREATE TABLE `donor` (`id` varchar(50) NOT NULL, `gender` varchar(50) default NULL, `species` varchar(50) default NULL, `strain` varchar(50) default NULL, `dob` varchar(50) default NULL, PRIMARY KEY (`id`)) CREATE TABLE `donor_visit` (`donor_visit_id` varchar(50) NOT NULL, `donor` varchar(50) default NULL, `content` varchar(50) default NULL, PRIMARY KEY (`id`), KEY `donor` (`donor`), CONSTRAINT `donor_visit_ibfk_1` FOREIGN KEY (`donor`) REFERENCES `donor` (`id`)) CREATE TABLE `family_history` (`histID` varchar(50) NOT NULL, `visitUpdate` varchar(50) default NULL, PRIMARY KEY (`histID`),

```
)

CREATE TABLE `human_donor` (
  `humanID` varchar(50) NOT NULL,
  `dob` varchar(50) default NULL,
  `gender` varchar(50) default NULL,
  PRIMARY KEY  (`id`),
  CONSTRAINT `human_donor_ibfk_1` FOREIGN
KEY (`humanID`) REFERENCES `donor` (`id`)
)

CREATE TABLE `lab_test` (
  `testID` varchar(50) NOT NULL,
  `donor` varchar(50) default NULL,
  PRIMARY KEY  (`testID`),
  KEY `donor` (`donor`),
  CONSTRAINT `lab_test_ibfk_1` FOREIGN KEY
(`donor`) REFERENCES `donor` (`id`)
)

CREATE TABLE `life_style_factors` (
  `factID` varchar(50) NOT NULL,
  `donor` varchar(50) default NULL,
  PRIMARY KEY  (`factID`),
  KEY `donor` (`donor`),
  CONSTRAINT `life_style_factors_ibfk_1`
FOREIGN KEY (`donor`) REFERENCES
`human_donor` (`id`)
)

CREATE TABLE `medications` (
  `medicID` varchar(50) NOT NULL,
  `donor` varchar(50) default NULL,
  PRIMARY KEY  (`medicID`),
  KEY `donor` (`donor`),
  CONSTRAINT `medications_ibfk_1` FOREIGN
KEY (`donor`) REFERENCES `human_donor` (`id`)
)

CREATE TABLE `sample` (
  `name` varchar(50) NOT NULL,
  `donorID` varchar(50) NOT NULL,
  PRIMARY KEY  (`name`),
  KEY `FK_sample_1` (`donorID`),
  CONSTRAINT `FK_sample_1` FOREIGN KEY
(`donorID`) REFERENCES `donor` (`id`)
)
```

```
  KEY `visitUpdate` (`visitUpdate`),
  CONSTRAINT `family_history_ibfk_1` FOREIGN
KEY (`visitUpdate`) REFERENCES `visit_update`
(`updateID`)
)

CREATE TABLE `lab_test` (
  `testID` varchar(50) NOT NULL,
  `visitUpdate` varchar(50) default NULL,
  PRIMARY KEY  (`testID`),
  KEY `visitUpdate` (`visitUpdate`),
  CONSTRAINT `lab_test_ibfk_1` FOREIGN KEY
(`visitUpdate`) REFERENCES `visit_update`
(`updateID`)
)

CREATE TABLE `life_style_factors` (
  `factID` varchar(50) NOT NULL,
  `visitUpdate` varchar(50) default NULL,
  PRIMARY KEY  (`factID`),
  KEY `visitUpdate` (`visitUpdate`),
  CONSTRAINT `life_style_factors_ibfk_1`
FOREIGN KEY (`visitUpdate`) REFERENCES
`visit_update` (`updateID`)
)

CREATE TABLE `medications` (
  `medicID` varchar(50) NOT NULL,
  `visitUpdate` varchar(50) default NULL,
  PRIMARY KEY  (`medicID`),
  KEY `visitUpdate` (`visitUpdate`),
  CONSTRAINT `medications_ibfk_1` FOREIGN
KEY (`visitUpdate`) REFERENCES `visit_update`
(`updateID`)
)

CREATE TABLE `sample` (
  `name` varchar(50) NOT NULL,
  `donorVisitID` varchar(50) default NULL,
  PRIMARY KEY  (`name`),
  KEY `donorVisitID` (`donorVisitID`),
  CONSTRAINT `sample_ibfk_1` FOREIGN KEY
(`donorVisitID`) REFERENCES `donor_visit`
(`donor_visit_id`)
)

CREATE TABLE `visit_update` (
  `updateID` varchar(50) NOT NULL,
  `visit` varchar(50) default NULL,
  PRIMARY KEY  (`updateID`),
  KEY `visit` (`visit`),
  CONSTRAINT `visit_update_ibfk_1` FOREIGN
KEY (`visit`) REFERENCES `donor_visit`
(`donor_visit_id`)
)
```

University Schemas-1 (UNIV-1)

Recipient Schema

```
CREATE TABLE `course` (
  `number` varchar(50) NOT NULL,
  `courseTitle` varchar(50) default NULL,
  `description` varchar(50) default NULL,
  `prerequisites` varchar(50) default NULL,
  `instructor` varchar(50) default NULL,
  PRIMARY KEY  (`number`),
  KEY `instructor` (`instructor`),
  CONSTRAINT `course_ibfk_1` FOREIGN KEY
(`instructor`) REFERENCES `faculty_member`
(`faculty_member_id`)
)

CREATE TABLE `faculty_member` (
  `faculty_member_id` varchar(50) NOT NULL,
  `personName` varchar(50) default NULL,
  `personTitle` varchar(50) default NULL,
  `homepage` varchar(50) default NULL,
  `researchInterest` varchar(50) default NULL,
  `email` varchar(50) default NULL,
  PRIMARY KEY  (`faculty_member_id`)
)

CREATE TABLE `paper` (
  `paperTitle` varchar(50) NOT NULL,
  `description` varchar(50) default NULL,
  `publicationYear` varchar(50) default NULL,
  PRIMARY KEY  (`paperTitle`),
  KEY `publicationYear` (`publicationYear`),
  CONSTRAINT `paper_ibfk_1` FOREIGN KEY
(`publicationYear`) REFERENCES `year` (`yr`)
)

CREATE TABLE `paper_author` (
  `paperTitle` varchar(50) NOT NULL,
  `author` varchar(50) NOT NULL,
  PRIMARY KEY  (`paperTitle`,`author`),
  KEY `FK_paper_author_3` (`author`),
  CONSTRAINT `FK_paper_author_3` FOREIGN
KEY (`author`) REFERENCES `student`
(`student_id`),
  CONSTRAINT `FK_paper_author_2` FOREIGN
KEY (`author`) REFERENCES `faculty_member`
(`faculty_member_id`),
  CONSTRAINT `paper_author_ibfk_1` FOREIGN
KEY (`paperTitle`) REFERENCES `paper`
(`paperTitle`)
)
```

Donor Schema

```
CREATE TABLE `academic_staff` (
  `academic_staff_id` varchar(50) NOT NULL,
  `name` varchar(50) default NULL,
  `office` varchar(50) default NULL,
  `email` varchar(50) default NULL,
  `phone` varchar(50) default NULL,
  PRIMARY KEY  (`academic_staff_id`)
)

CREATE TABLE `admin_staff` (
  `admin_staff_id` varchar(50) NOT NULL,
  `name` varchar(50) default NULL,
  `office` varchar(50) default NULL,
  `email` varchar(50) default NULL,
  `phone` varchar(50) default NULL,
  PRIMARY KEY  (`admin_staff_id`)
)

CREATE TABLE `areas_of_interest` (
  `interest_id` varchar(50) NOT NULL,
  `area` varchar(50) NOT NULL,
  PRIMARY KEY  (`interest_id`,`area`),
  CONSTRAINT `areasofinterest_ibfk_1` FOREIGN
KEY (`interest_id`) REFERENCES `student`
(`student_id`),
  CONSTRAINT `areasofinterest_ibfk_2` FOREIGN
KEY (`interest_id`) REFERENCES `academic_staff`
(`academic_staff_id`)
)

CREATE TABLE `course` (
  `courseNumber` varchar(40) NOT NULL,
  `courseTitle` varchar(50) default NULL,
  `instructor` varchar(50) default NULL,
  `area` varchar(50) default NULL,
  `description` varchar(200) default NULL,
  `prerequisite` varchar(200) default NULL,
  PRIMARY KEY  (`courseNumber`),
  KEY `instructor` (`instructor`),
  CONSTRAINT `course_ibfk_1` FOREIGN KEY
(`instructor`) REFERENCES `academic_staff`
(`academic_staff_id`)
)

CREATE TABLE `student` (
  `student_id` varchar(50) NOT NULL,
  `student_name` varchar(50) NOT NULL,
   `email` varchar(50) default NULL,
  `supervisor` varchar(50) default NULL,
```

```
CREATE TABLE `person_project` (
  `person` varchar(50) NOT NULL,
  `projectTitle` varchar(50) NOT NULL,
  PRIMARY KEY  (`person`,`projectTitle`),
  KEY `projectTitle` (`projectTitle`),
  CONSTRAINT `FK_person_project_3` FOREIGN
KEY (`person`) REFERENCES `student`
(`student_id`),
  CONSTRAINT `FK_person_project_2` FOREIGN
KEY (`person`) REFERENCES `faculty_member`
(`faculty_member_id`),
  CONSTRAINT `person_prject_ibfk_2` FOREIGN
KEY (`projectTitle`) REFERENCES `project`
(`projectTitle`)
)

CREATE TABLE `project` (
  `projectTitle` varchar(50) NOT NULL,
  `description` varchar(50) default NULL,
  `link` varchar(50) default NULL,
  PRIMARY KEY  (`projectTitle`)
)

CREATE TABLE `seminar` (
  `about` varchar(50) NOT NULL,
  `speaker` varchar(50) default NULL,
  `date` varchar(50) default NULL,
  `location` varchar(50) default NULL,
  PRIMARY KEY  (`about`),
  KEY `speaker` (`speaker`),
  CONSTRAINT `FK_seminar_1` FOREIGN KEY
(`speaker`) REFERENCES `faculty_member`
(`faculty_member_id`)
)

CREATE TABLE `student` (
  `student_id` varchar(50) NOT NULL,
  `studentName` varchar(50) default NULL,
  `advisor` varchar(50) default NULL,
  `email` varchar(50) default NULL,
  PRIMARY KEY  (`student_id`),
  KEY `advisor` (`advisor`),
  CONSTRAINT `FK_student_2` FOREIGN KEY
(`advisor`) REFERENCES `faculty_member`
(`faculty_member_id`)
)

CREATE TABLE `year` (
  `yr` varchar(50) NOT NULL,
  PRIMARY KEY  (`yr`)
)
```

```
  PRIMARY KEY  (`student_id`),
  KEY `supervisor` (`supervisor`),
  CONSTRAINT `student_ibfk_1` FOREIGN KEY
(`supervisor`) REFERENCES `academic_staff`
(`academic_staff_id`)
)
```

University Schemas-2 (UNIV-2)

Recipient Schema

```
CREATE TABLE `academic_programme` (
  `academic_programme_ID` int(11) NOT NULL,
  `ACADEMIC_YEAR` char(10) NOT NULL,
  `ACADEMIC_SEMESTER` varchar(50) NOT NULL,
  `PROGRAM_REF` int(11) default NULL,
  PRIMARY KEY  (`academic_programme_ID`),
  KEY `parent_programme` (`PROGRAM_REF`),
  CONSTRAINT `parent_programme` FOREIGN KEY
(`PROGRAM_REF`) REFERENCES `program`
(`program_ID`)
)

CREATE TABLE `academic_staff_member` (
  `academic_staff_member_ID` int(11) NOT NULL,
  `STAFF_NAME` varchar(150) NOT NULL,
  `STAFF_EMAIL` varchar(75) default NULL,
  `STAFF_PHONE` varchar(50) default NULL,
  `STAFF_FAX` varchar(75) default NULL,
  `STAFF_IDENTIFICATION_NUM` varchar(100) NOT
NULL,
  `STAFF_BIRTHDATE` date NOT NULL,
  PRIMARY KEY  (`academic_staff_member_ID`),
  UNIQUE KEY `ACADEMICSTAFF_EMAIL_UNIQUE`
(`STAFF_EMAIL`)
)

CREATE TABLE `campus` (
  `campus_ID` int(11) NOT NULL,
  `CAMPUS_NAME` varchar(150) NOT NULL,
  `CAMPUS_LOCATION` varchar(150) default NULL,
  `UNVCAMPUS` int(11) default NULL,
  PRIMARY KEY  (`campus_ID`),
  KEY `parentuniversity` (`UNIVERSITY_REF`),
  CONSTRAINT `parentuniversity` FOREIGN KEY
(`UNVCAMPUS`) REFERENCES `university`
(`university_ID`)
)

CREATE TABLE `course` (
  `course_ID` int(11) NOT NULL,
  `COURSE_NAME` varchar(150) NOT NULL,
  `COURSE_CREDITS` smallint(6) NOT NULL default '3',
  `COURSE_PROVIDER` int(11) NOT NULL,
  `COURSE_INSTRUCTOR` int(11) NOT NULL,
  PRIMARY KEY  (`course_ID`),
  KEY `parent_instructor` (`COURSE_INSTRUCTOR`),
  KEY `provider_department` (`COURSE_PROVIDER`),
  CONSTRAINT `parent_instructor` FOREIGN KEY
(`COURSE_INSTRUCTOR`) REFERENCES
`academic_staff_member` (`academic_staff_member_ID`),
  CONSTRAINT `provider_department` FOREIGN KEY
(`COURSE_PROVIDER`) REFERENCES `department`
(`department_ID`)
)
```

Donor Schema

```
CREATE TABLE `academic_course` (
  `academic_course_ID` int(11) NOT NULL,
  `ACADEMIC_COURSE_NAME`
varchar(150) NOT NULL,
  `ACADEMIC_COURSE_CREDITS`
smallint(6) NOT NULL default '3',
  `ACADEMIC_COURSE_PROVIDER`
int(11) NOT NULL,
  `ACADEMIC_COURSE_INSTRUCTOR`
int(11) NOT NULL,
  PRIMARY KEY  (`academic_course_ID`),
  KEY `parent_instructor`
(`ACADEMIC_COURSE_INSTRUCTOR`),
  KEY `provider_department`
(`ACADEMIC_COURSE_PROVIDER`),
  CONSTRAINT `parent_instructor`
FOREIGN KEY
(`ACADEMIC_COURSE_INSTRUCTOR`)
REFERENCES
`university_academic_instructor`
(`university_academic_instructor_ID`),
  CONSTRAINT `provider_department`
FOREIGN KEY
(`ACADEMIC_COURSE_PROVIDER`)
REFERENCES `department`
(`department_ID`)
)

CREATE TABLE `academic_institution` (
  `academic_institution_ID` int(11) NOT
NULL,
  `ACADEMIC_INSTITUTION_NAME`
varchar(150) NOT NULL,
  `ACADEMIC_INSTITUTION_WEBSITE`
varchar(150) NOT NULL,
  PRIMARY KEY
(`academic_institution_ID`)
)

CREATE TABLE `academic_programme` (
  `academic_programme_ID` int(11) NOT
NULL,
  `YEAR` char(10) NOT NULL,
  `SEMESTER` varchar(50) NOT NULL,
  `PROGRAM_REF` int(11) default NULL,
  PRIMARY KEY
(`academic_programme_ID`),
  KEY `parent_programme`
(`PROGRAM_REF`),
  CONSTRAINT `parent_programme`
FOREIGN KEY (`PROGRAM_REF`)
REFERENCES `program` (`program_ID`)
)

CREATE TABLE `department` (
```

```
CREATE TABLE `department` (
  `department_ID` int(11) NOT NULL,
  `DEPT_NAME` varchar(150) NOT NULL,
  `FACULTY_REF` int(11) NOT NULL,
  PRIMARY KEY  (`department_ID`),
  KEY `parent_faculty` (`FACULTY_REF`),
  CONSTRAINT `parent_faculty` FOREIGN KEY
(`FACULTY_REF`) REFERENCES `faculty` (`faculty_ID`)
)

CREATE TABLE `faculty` (
  `faculty_ID` int(11) NOT NULL,
  `FACULTY_NAME` varchar(150) NOT NULL,
  `DEAN_REF` int(11) NOT NULL,
  `UNIVERSITY_REF` int(11) NOT NULL,
  PRIMARY KEY  (`faculty_ID`),
  KEY `parent_dean` (`DEAN_REF`),
  KEY `parent_university` (`UNIVERSITY_REF`),
  CONSTRAINT `parent_dean` FOREIGN KEY
(`DEAN_REF`) REFERENCES `academic_staff_member`
(`academic_staff_member_ID`),
  CONSTRAINT `parent_university` FOREIGN KEY
(`UNIVERSITY_REF`) REFERENCES `university`
(`university_ID`)
)

CREATE TABLE `program` (
  `program_ID` int(11) NOT NULL,
  `PROGRAM_NAME` varchar(150) NOT NULL,
  `PROGRAM_DESC` varchar(150) default NULL,
  PRIMARY KEY  (`program_ID`)
)

CREATE TABLE `registration` (
  `registration_ID` int(11) NOT NULL,
  `REGISTRATION_ACADEMICSTAFFMEMBER_REF`
int(11) default NULL,
  `REGISTRATION_COURSE_REF` int(11) default NULL,
  `REGISTRATION_ACADEMICPROGRAMME_REF`
int(11) NOT NULL,
  PRIMARY KEY  (`registration_ID`),
  KEY `parent_academic_entity`
(`REGISTRATION_ACADEMICSTAFFMEMBER_REF`),
  KEY `parent_academic_programme`
(`REGISTRATION_ACADEMICPROGRAMME_REF`),
  KEY `parent_course`
(`REGISTRATION_COURSE_REF`),
  CONSTRAINT `parent_academic_entity` FOREIGN KEY
(`REGISTRATION_ACADEMICSTAFFMEMBER_REF`)
REFERENCES `academic_staff_member`
(`academic_staff_member_ID`),
  CONSTRAINT `parent_academic_programme` FOREIGN
KEY
(`REGISTRATION_ACADEMICPROGRAMME_REF`)
REFERENCES `academic_programme`
(`academic_programme_ID`),
  CONSTRAINT `parent_course` FOREIGN KEY
(`REGISTRATION_COURSE_REF`) REFERENCES
`course` (`course_ID`)
  `department_ID` int(11) NOT NULL,
  `DEPT_NAME` varchar(150) NOT NULL,
  `UNIVERSITY_REF` int(11) NOT NULL,
  PRIMARY KEY  (`department_ID`),
  KEY `parent_university`
(`UNIVERSITY_REF`),
  CONSTRAINT `parent_university`
FOREIGN KEY (`UNIVERSITY_REF`)
REFERENCES `academic_institution`
(`academic_institution_ID`)
)

CREATE TABLE `program` (
  `program_ID` int(11) NOT NULL,
  `PROGRAM_NAME` varchar(150) NOT
NULL,
  `PROGRAM_DESC` varchar(150) default
NULL,
  PRIMARY KEY  (`program_ID`)
)

CREATE TABLE
`university_academic_instructor` (
  `university_academic_instructor_ID` int(11)
NOT NULL,
  `NAME` varchar(150) NOT NULL,
  `ELECTRONIC_MAIL` varchar(75) default
NULL,
  `OFFICE_ADDRESS` varchar(150) default
NULL,
  `TELEPHONE` varchar(50) default NULL,
  PRIMARY KEY
(`university_academic_instructor_ID`)
)

CREATE TABLE `university_student` (
  `university_student_ID` int(11) NOT NULL,
  `NAME` varchar(150) NOT NULL,
  `ELECTRONIC_MAIL` varchar(75) default
NULL,
  `TELEPHONE` varchar(50) default NULL,
  PRIMARY KEY  (`university_student_ID`)
)
```

) CREATE TABLE `university` (`university_ID` int(11) NOT NULL, `UNIVERSITY_NAME` varchar(150) NOT NULL, `UNIVERSITY_WEBSITE` varchar(150) NOT NULL, `UNIVERSITY_ESTABLISHMENT_DATE` date default NULL, PRIMARY KEY (`university_ID`), UNIQUE KEY `NAME_CONSTRAINT` (`UNIVERSITY_NAME`))	

University Schemas-3 (UNIV-3)

Recipient Schema	**Donor Schema**
CREATE TABLE `address` (`Id` int(11) NOT NULL, `Street` text, `City` text, `PostalCode` int(11) default NULL, PRIMARY KEY (`Id`)) CREATE TABLE `payrate` (`Rank` int(11) NOT NULL, `HrRate` double default NULL, PRIMARY KEY (`Rank`)) CREATE TABLE `professor` (`Id` int(11) NOT NULL, `Name` text, `Sal` double default NULL, `addr` int(11) default NULL, PRIMARY KEY (`Id`), KEY `FK_professor_1` (`addr`), CONSTRAINT `FK_professor_1` FOREIGN KEY (`addr`) REFERENCES `address` (`Id`)) CREATE TABLE `student` (`Name` text, `GPA` double default NULL, `Yr` int(11) default NULL) CREATE TABLE `workson` (`Name` text, `Proj` text, `Hrs` int(11) default NULL, `ProjRank` int(11) default NULL, KEY `FK_workson_1` (`ProjRank`), CONSTRAINT `FK_workson_1` FOREIGN KEY (`ProjRank`) REFERENCES `payrate` (`Rank`))	CREATE TABLE `professor` (`Id` int(11) NOT NULL, `Name` text, `Salary` double default NULL, `Address` text, PRIMARY KEY (`Id`)) CREATE TABLE `student` (`Name` text, `GradePointAverage` double default NULL, `Year` int(11) default NULL) CREATE TABLE `workson` (`StudentName` text, `Project` text, `Expenses` double default NULL)