**MUGLA SITKI KOCMAN UNIVERSITY**

**2016-2017 EDUCATION YEAR**

**DATABASE MANAGEMENT SYSTEM**

**FINAL PROJECT REPORT**

**PROJECT MEMBERS**

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And

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Our project was the gestation records of a specific time interval.

Our target was to help hospitals and some institutions which have a main purpose of child growth and pregnancy.

**(2)-**Our ER diagram had family, height and weight tables which shouldn`t take place in the diagram.And our date was on a different format.We somehow managed to fix the date on excel and transformed it into the wanted MySQL format.We have used foreign keys to share the values which are bounded to “Primary Keys”.We deleted family, height and weight tables and put all of the properties in gestation table.Finally we divided these properties into primary keys to split our data and have a 3 NF database schema.

We re-created our SQL queries according to our new ER diagram and schema.Since we haven`t used “group by” state in Phase I ; we added the statement on questions.We did multiple views and two stored procedures.We have inserted our data via MySQL workbench.

**(3)-**We have tried to load our database via excel MySQL plugin.It didn`t work properly so we have decided to load our datas into our database by importing in MySQL Workbench.

**(4)-**We use MySql Workbench on Windows.

**(5)-Views:**

not\_smoking\_mother\_gestation: Implements the number of non smoker mothers(NEVER)

not\_married : Implements number not married couples

interracial\_couples: Implements number of interracial couples

Couples : Number of couples.

5more\_pregnancy : Implements the mothers who has had 5 or more pregnancy.

5less\_pregnancy : Implements the mothers who has had less than 5 pregnancy.

smoke\_deg\_as\_gest: Implements smoke degree according to smoke numbers which is bounded by gestation id.

smoking\_mother\_gestation: Implements the number of currently smoking mothers.

total\_mother :Implements the total mother count.

**Stored Procedures:**

gestationbyincomeid: Shows the gestation id according to the given income id by user.

smokestatistics:Gets input as smoke number id from user.Shows the smoke number statistics depending on smoke degrees which has a common gestation id.

**(6)-**

####Gives the output as description of smoking and from-to attributes of smoke numbers table , where their gestation id is same.###

create view smoke\_deg\_as\_gest as

select smoke\_deg\_desc , gestation.smoke\_number\_id

from smoke join gestation on (gestation.smoke\_deg\_id = smoke.smoke\_deg\_id)

where gestation\_id in (select gestation\_id

from gestation join smoke\_number on (gestation.smoke\_number\_id = smoke\_number.smoke\_number\_id));

select smoke\_deg\_as\_gest.smoke\_deg\_desc ,smoke\_number.smoke\_number\_id, smoke\_number.from , smoke\_number.to

from smoke\_deg\_as\_gest join smoke\_number on(smoke\_deg\_as\_gest.smoke\_number\_id = smoke\_number.smoke\_number\_id)

group by smoke\_number.from , smoke\_number.to

order by smoke\_deg\_as\_gest.smoke\_deg\_desc;

####Uses view under procedure to get the output as description of smoking and from-to attributes of smoke numbers table , where their gestation id is same and the given index is equal to smoke number id#####

CREATE DEFINER=`root`@`localhost` PROCEDURE `smokestatistics`(smokenumid int)

BEGIN

select smoke\_deg\_as\_gest.smoke\_deg\_desc ,smoke\_number.smoke\_number\_id, smoke\_number.from , smoke\_number.to

from smoke\_deg\_as\_gest join smoke\_number on(smoke\_deg\_as\_gest.smoke\_number\_id = smoke\_number.smoke\_number\_id)

where smoke\_number.smoke\_number\_id = smokenumid

group by smoke\_number.from , smoke\_number.to

order by smoke\_deg\_as\_gest.smoke\_deg\_desc;

END

**(7)-** We couldn`t get the queries as the way we expected.So we decided to use multiple views and two stored procedures.Views and stored procedure were very helpful for us to implement our Project as human readable and accesible by sql commands.For the improvement , we can use more views and procedures as we did in phase I.And a simple Graphical User Interface could be very helpful.

**(8)-**

SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0;

SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0;

SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='TRADITIONAL,ALLOW\_INVALID\_DATES';

-- -----------------------------------------------------

-- Schema gestation

-- -----------------------------------------------------

DROP SCHEMA IF EXISTS `gestation` ;

-- -----------------------------------------------------

-- Schema gestation

-- -----------------------------------------------------

CREATE SCHEMA IF NOT EXISTS `gestation` DEFAULT CHARACTER SET utf8 ;

USE `gestation` ;

-- -----------------------------------------------------

-- Table `smoke`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `smoke` (

`smoke\_deg\_id` INT NOT NULL,

`smoke\_deg\_desc` VARCHAR(30) NULL,

PRIMARY KEY (`smoke\_deg\_id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `marital`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `marital` (

`marital\_id` INT NOT NULL,

`marital\_desc` VARCHAR(20) NULL,

PRIMARY KEY (`marital\_id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `race`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `race` (

`race\_id` INT NOT NULL,

`race` VARCHAR(10) NULL,

PRIMARY KEY (`race\_id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `education`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `education` (

`education\_id` INT NOT NULL,

`education\_desc` VARCHAR(30) NULL,

PRIMARY KEY (`education\_id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `smoketime`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `smoketime` (

`smoketime\_id` INT NOT NULL,

`smoketime\_desc` VARCHAR(25) NULL,

PRIMARY KEY (`smoketime\_id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `smoke\_number`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `smoke\_number` (

`smoke\_number\_id` INT NOT NULL,

`from` INT NULL,

`to` INT NULL,

PRIMARY KEY (`smoke\_number\_id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `income`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `income` (

`income\_id` INT NOT NULL,

`from` INT NULL,

`to` INT NULL,

PRIMARY KEY (`income\_id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `gestation`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `gestation` (

`gestation\_id` INT NOT NULL,

`mrace\_id` INT NOT NULL,

`drace\_id` INT NOT NULL,

`meducation\_id` INT NOT NULL,

`deducation\_id` INT NOT NULL,

`marital\_id` INT NOT NULL,

`income\_id` INT NOT NULL,

`smoke\_deg\_id` INT NOT NULL,

`smoketime\_id` INT NOT NULL,

`smoke\_number\_id` INT NOT NULL,

`pluralty` INT NULL,

`outcome` INT NULL,

`date` DATE NULL,

`gestation\_length` INT NULL,

`sex` INT NULL,

`birth\_weight` INT NULL,

`parity` INT NULL,

`mage` INT NULL,

`mheight` INT NULL,

`mweight` INT NULL,

`dage` INT NULL,

`dheight` INT NULL,

`dweight` INT NULL,

PRIMARY KEY (`gestation\_id`),

CONSTRAINT `fk\_gestation\_smoke`

FOREIGN KEY (`smoke\_deg\_id`)

REFERENCES `smoke` (`smoke\_deg\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_marital1`

FOREIGN KEY (`marital\_id`)

REFERENCES `marital` (`marital\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_race1`

FOREIGN KEY (`mrace\_id`)

REFERENCES `race` (`race\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_education1`

FOREIGN KEY (`deducation\_id`)

REFERENCES `education` (`education\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_smoketime1`

FOREIGN KEY (`smoketime\_id`)

REFERENCES `smoketime` (`smoketime\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_smoke\_number1`

FOREIGN KEY (`smoke\_number\_id`)

REFERENCES `smoke\_number` (`smoke\_number\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_income1`

FOREIGN KEY (`income\_id`)

REFERENCES `income` (`income\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_education2`

FOREIGN KEY (`meducation\_id`)

REFERENCES `education` (`education\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_gestation\_race2`

FOREIGN KEY (`drace\_id`)

REFERENCES `race` (`race\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_gestation\_smoke\_idx` ON `gestation` (`smoke\_deg\_id` ASC);

CREATE INDEX `fk\_gestation\_marital1\_idx` ON `gestation` (`marital\_id` ASC);

CREATE INDEX `fk\_gestation\_race1\_idx` ON `gestation` (`mrace\_id` ASC);

CREATE INDEX `fk\_gestation\_education1\_idx` ON `gestation` (`deducation\_id` ASC);

CREATE INDEX `fk\_gestation\_smoketime1\_idx` ON `gestation` (`smoketime\_id` ASC);

CREATE INDEX `fk\_gestation\_smoke\_number1\_idx` ON `gestation` (`smoke\_number\_id` ASC);

CREATE INDEX `fk\_gestation\_income1\_idx` ON `gestation` (`income\_id` ASC);

CREATE INDEX `fk\_gestation\_education2\_idx` ON `gestation` (`meducation\_id` ASC);

CREATE INDEX `fk\_gestation\_race2\_idx` ON `gestation` (`drace\_id` ASC);

-- -----------------------------------------------------

-- Data for table `smoke`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `smoke` (`smoke\_deg\_id`, `smoke\_deg\_desc`) VALUES (1, 'never');

####EXAMPLE INSERT FOR SMOKE TABLE###

COMMIT;

-- -----------------------------------------------------

-- Data for table `marital`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `marital` (`marital\_id`, `marital\_desc`) VALUES (1, 'married');

####EXAMPLE INSERT FOR MARITAL TABLE###

COMMIT;

-- -----------------------------------------------------

-- Data for table `race`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `race` (`race\_id`, `race`) VALUES (1, 'white');

####EXAMPLE INSERT FOR RACE TABLE###

COMMIT;

-- -----------------------------------------------------

-- Data for table `education`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `education` (`education\_id`, `education\_desc`) VALUES (1, 'less then 8th');

####EXAMPLE INSERT FOR EDUCATION TABLE###

COMMIT;

-- -----------------------------------------------------

-- Data for table `smoketime`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `smoketime` (`smoketime\_id`, `smoketime\_desc`) VALUES (1, 'never');

####EXAMPLE INSERT FOR SMOKETIME TABLE###

COMMIT;

-- -----------------------------------------------------

-- Data for table `smoke\_number`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `smoke\_number` (`smoke\_number\_id`, `from`, `to`) VALUES (0, 0, 0);

####EXAMPLE INSERT FOR SMOKE\_NUMBER TABLE###

COMMIT;

-- -----------------------------------------------------

-- Data for table `income`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `income` (`income\_id`, `from`, `to`) VALUES (1, 0, 2500);

####EXAMPLE INSERT FOR INCOME TABLE###

COMMIT;

-- -----------------------------------------------------

-- Data for table `gestation`

-- -----------------------------------------------------

START TRANSACTION;

USE `gestation`;

INSERT INTO `gestation` (`gestation\_id`, `mrace\_id`, `drace\_id`, `meducation\_id`, `deducation\_id`, `marital\_id`, `income\_id`, `smoke\_deg\_id`, `smoketime\_id`, `smoke\_number\_id`, `pluralty`, `outcome`, `date`, `gestation\_length`, `sex`, `birth\_weight`, `parity`, `mage`, `mheight`, `mweight`, `dage`, `dheight`, `dweight`) VALUES (15, 4, 4, 6, 6, 1, 2, 1, 1, 9, 5, 1, '1961-11-11', 284, 1, 120, 1, 27, 62, 100, 31, 65, 110);

####EXAMPLE INSERT FOR GESTATION TABLE###

COMMIT;

SET SQL\_MODE=@OLD\_SQL\_MODE;

SET FOREIGN\_KEY\_CHECKS=@OLD\_FOREIGN\_KEY\_CHECKS;

SET UNIQUE\_CHECKS=@OLD\_UNIQUE\_CHECKS;

**(9)-** **1#What is the proportion between the premature births from the mothers who smoke to non-smokers?**

create view smoking\_mother\_gestation as

select count(smoke\_deg\_id) as var1

from gestation

where smoke\_deg\_id=2 and gestation\_length < 252;

create view not\_smoking\_mother\_gestation as

select count(smoke\_deg\_id) as var2

from gestation

where smoke\_deg\_id !=2 and gestation\_length < 252;

select smoking\_mother\_gestation.var1/not\_smoking\_mother\_gestation.var2

from smoking\_mother\_gestation join not\_smoking\_mother\_gestation;

**2#What is the approximate annual income of the families that graduated from the university?**

SELECT avg(income\_id)

from gestation

where meducation\_id = 5 and deducation\_id = 5 ;

**3#What is the proportion between the married and not married births?**

create view not\_married as

select count(marital\_id) as var1

from gestation

where marital\_id=2 ;

create view total\_mother as

select count(marital\_id) as var2

from gestation ;

select not\_married.var1 / total\_mother.var2

from not\_married join total\_mother;

**4#How many percent of couples are interracial?**

create view interracial\_couples as

select count(gestation\_id) as var1

from gestation

where mrace\_id != drace\_id ;

create view couples as

select count(gestation\_id) as var2

from gestation;

select interracial\_couples.var1/ couples.var2

from interracial\_couples join couples ;

**5#What is the proportion of the premature births given by the mother who gives more than 5 times to the others?**

create view 5more\_pregnancy as

select count(gestation\_id) as var1

from gestation

where parity >= 5 and gestation\_length < 252;

create view 5less\_pregnancy as

select count(gestation\_id) as var2

from gestation

where parity <= 5 and gestation\_length < 252;

select 5more\_pregnancy.var1 / 5less\_pregnancy.var2

from 5more\_pregnancy join 5less\_pregnancy ;

**6#Align the babies who have the longest pregnancy from the top birth\_weight to the down.**

select \*

from

(select birth\_weight , gestation\_length

from gestation

order by gestation\_length desc

limit 10

) as sort

order by birth\_weight desc ;

**7#Can you compare the weight of mother and birth weight?**

select mweight , birth\_weight

from gestation

order by birth\_weight desc

limit 10;

**8#**İ**mplement smoke degrees and smoke numbers according to gestation id.**

CREATE DEFINER=`root`@`localhost` PROCEDURE `smokestatistics`(smokenumid int)

BEGIN

select smoke\_deg\_as\_gest.smoke\_deg\_desc ,smoke\_number.smoke\_number\_id, smoke\_number.from , smoke\_number.to

from smoke\_deg\_as\_gest join smoke\_number on(smoke\_deg\_as\_gest.smoke\_number\_id = smoke\_number.smoke\_number\_id)

where smoke\_number.smoke\_number\_id = smokenumid

group by smoke\_number.from , smoke\_number.to

order by smoke\_deg\_as\_gest.smoke\_deg\_desc;

END

Call smokestatistics(user input)

**9#Show the income depending on father`s education.(Show them both in a query.And order them by descending.)**

select income.income\_id , deducation\_id, income.from ,income.to

from gestation join income on (gestation.income\_id=income.income\_id)

order by gestation.income\_id desc

limit 10;

**10#Show all mothers according to their smoke degrees.**

select count(gestation.smoke\_deg\_id) as count\_of\_mom,smoke.smoke\_deg\_id, smoke\_deg\_desc

from gestation join smoke on (gestation.smoke\_deg\_id=smoke.smoke\_deg\_id)

group by gestation.smoke\_deg\_id

order by gestation.smoke\_deg\_id;

