QUESTION 4 20 minutes 20 points

10150261	D	40180031	D	40180229	D	40190017	D	40190219	D
10150281	E	40180038	E	40180235	E	40190018	E	40190230	E
10160263	A	40180039	A	40180240	A	40190020	A	40190232	A
40090444	B	40180040	B	40180244	B	40190036	B	40190238	B
40150420	C	40180044	C	40180254	C	40190077	C	40190242	C
40160749	D	40180056	D	40180255	D	40190085	D	40190251	D
40170218	E	40180063	E	40180260	E	40190098	E	40190254	E
40170411	A	40180065	A	40180527	A	40190100	A	40190431	A
40170812	B	40180098	B	40180619	B	40190208	B	40190517	B
40180003	C	40180117	C	40180752	C	40190209	C	40190617	C
40180009	D	40180205	D	40180804	D	40190212	D	40190736	D
40180010	E	40180206	E	40180806	E	40190213	E	40190737	E
40180015	A	40180217	A	40180808	A	40190216	A	40190746	A
40180020	B	40180225	B	40180925	B	40190217	B	40190748	B
40190754	A	40190791	C	40190912	E				

GROUP: A GROUP: B GROUP: C GROUP: D GROUP: E

GROUP: A

4) The number of hours studied and exam score received for 6 students are shown in the following table.

Hours(x)	1	3	4	3	5	2
Score(y)	60	75	90	80	95	65

a) Assuming that a simple linear regression model is appropriate, fit the regression model relating exam score (y) to the number of hours studied (x).
b) What is the estimate of expected score when number of hours studied is 4?

$$Y=\alpha X+\beta,\ \alpha=\frac{Cov[X,Y]}{\sigma_X^{\,2}},\ \beta=E[Y]-\frac{Cov[X,Y]}{\sigma_X^{\,2}}E[X]$$

GROUP: B

4) The number of hours studied and exam score received for 6 students are shown in the following table.

Hours(x)	1	2	4	3	5	3
Score(y)	65	75	90	80	95	75

a) Assuming that a simple linear regression model is appropriate, fit the regression model relating exam score (y) to the number of hours studied (x).
b) What is the estimate of expected score when number of hours studied is 5?

$$Y=\alpha X+\beta,\ \alpha=\frac{Cov[X,Y]}{\sigma_X^{\,2}},\ \beta=E[Y]-\frac{Cov[X,Y]}{\sigma_X^{\,2}}E[X]$$

GROUP: C

4) The number of hours studied and exam score received for 6 students are shown in the following table.

Hours(x)	1	2	4	4	6	1
Score(y)	55	75	90	85	95	65

a) Assuming that a simple linear regression model is appropriate, fit the regression model relating exam score (y) to the number of hours studied (x).
b) What is the estimate of expected score when number of hours studied is 3?

$$Y=\alpha X+\beta,\ \alpha=\frac{Cov[X,Y]}{\sigma_X^{\,2}},\ \beta=E[Y]-\frac{Cov[X,Y]}{\sigma_X^{\,2}}E[X]$$

GROUP: D

4) The number of hours studied and exam score received for 6 students are shown in the following table.

Hours(x)	2	1	4	3	5	3
Score(y)	70	55	90	80	95	75

a) Assuming that a simple linear regression model is appropriate, fit the regression model relating exam score (y) to the number of hours studied (x).
b) What is the estimate of expected score when number of hours studied is 2?

$$Y=\alpha X+\beta,\ \alpha=\frac{Cov[X,Y]}{\sigma_X^{\,2}},\ \beta=E[Y]-\frac{Cov[X,Y]}{\sigma_X^{\,2}}E[X]$$

GROUP: E

4) The number of hours studied and exam score received for 6 students are shown in the following table.

Hours(x)	2	1	4	1	4	6
Score(y)	70	40	85	50	80	95

a) Assuming that a simple linear regression model is appropriate, fit the regression model relating exam score (y) to the number of hours studied (x).
b) What is the estimate of expected score when number of hours studied is 4?

$$Y=\alpha X+\beta,\ \alpha=\frac{Cov[X,Y]}{\sigma_X^{\,2}},\ \beta=E[Y]-\frac{Cov[X,Y]}{\sigma_X^{\,2}}E[X]$$