Tram Le

Homework 5:

1. R output

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
my_data$stance	3	0.14	0.04795	0.808	0.489
Residuals	628	37.25	0.05932		

F-value = 0.808, P-value is 0.49. Since the P-value is greater than 0.05 of the level of significance, we fail to reject the null hypothesis. So there is mean difference in win ratio between fighter's stance. In conclusion, there is not enough evidence that's a fighter's stance has an effect on their win ratio.

2. R output

summary(model)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(Diet.data$Diet)	2	71.1	35.55	6.321	0.00296**
factor(Diet.data$gender)	1	0.1	0.14	0.024	0.87707
factor(Diet.data$Diet):factor(Diet.data$gender)	2	25.1	12.57	2.235	0.11434
Residuals	72	404.9	5.62		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

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TukeyHSD(model)

	diffMeans	lwr	upr	p adj
B:F-A:F	-0.4428571	-3.0671432	2.1814289	0.9962404
C:F-A:F	2.8300000	0.2498227	5.4101773	0.0233045
A:M-A:F	0.6000000	-2.2747613	3.4747613	0.9899030
B:M-A:F	0.4269231	-2.2473539	3.1012000	0.9971088
C:M-A:F	1.1833333	-1.5481102	3.9147769	0.8009936
C:F-B:F	3.2728571	0.6926799	5.8530344	0.0051685
A:M-B:F	1.0428571	-1.8319042	3.9176185	0.8946152

B:M-B:F	0.8697802	-1.8044967	3.5440572	0.9311854
C:M-B:F	1.6261905	-1.1052530	4.3576340	0.5084885
A:M-C:F	-2.2300000	-5.0645529	0.6045529	0.2062195
B:M-C:F	-2.4030769	-5.0340833	0.2279295	0.0931775
C:M-C:F	-1.6466667	-4.3357597	1.0424263	0.4767642
B:M-A:M	-0.1730769	-3.0935448	2.7473909	0.9999772
C:M-A:M	0.5833333	-2.3895708	3.5562375	0.9923974
C:M-B:M	0.7564103	-2.0230975	3.5359181	0.9671919

In conclusion, from anova test, there was a significant of between effect of Diet and Gender on weightlost (F-value = 2.235 , P-value = 0.11434). From Tukey HSD test, there was a significant differences are for Females and between Diet A and Diet C (p = 0.0233) and Diet B and Diet C (p = 0.0051) but not enough evidence on diet for male.