STATISTICS FOR ENGINEERS

MAT2001

LAB TASK – 6

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Suppose the following table represents the sales figures of the 3 new menu items in the 18 restaurants after a week of test marketing. At .05 level of significance, test whether the average sales volume for the 3 new menu items are all equal.

Item 1	Item 2	Item 3
22	52	16
42	33	24
44	8	19
52	47	18
45	43	34
37	32	39

```
> d=read.csv("C:\\Users\\ady21\\Documents\\MAT2001\\ADV006.csv")
> r=c(t(as.matrix(d)))
> r
 [1] 22 52 16 42 33 24 44  8 19 52 47 18 45 43 34 37 32 39
> f=c("Item1","Item2","Item3")
> f
[1] "Item1" "Item2" "Item3"
> k=3
> n=6
> t=gl(k,1,n*k,factor(f))
> t
 [1] Item1 Item2 Item3 Item1 Item2 Item3 Item1 Item2 Item3 Item1 Item2 Item3 Item1 Item2 Item3 Item1 Item2 Item3
Levels: Item1 Item2 Item3
> a=aov(r~t)
> summary(a)
            Df Sum Sq Mean Sq F value Pr(>F)
t            2  745.4   372.7   2.541  0.112
Residuals   15 2200.2   146.7
>
```

Since the p-value of 0.112 is greater than the 0.05 significance level, we do not reject the null hypothesis that ***the mean sales volume of the new menu items are all equal.***