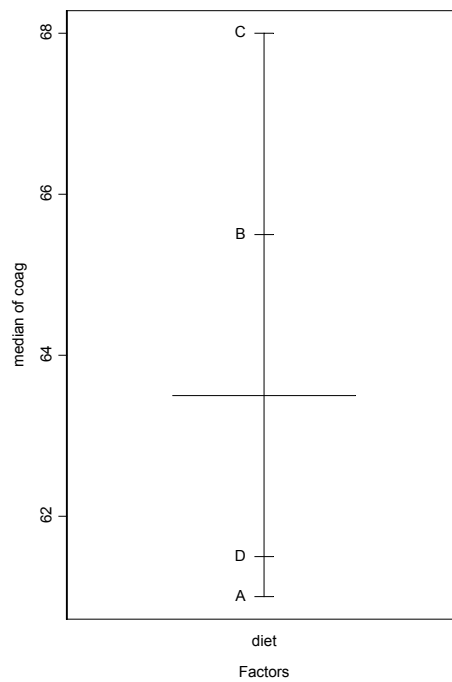
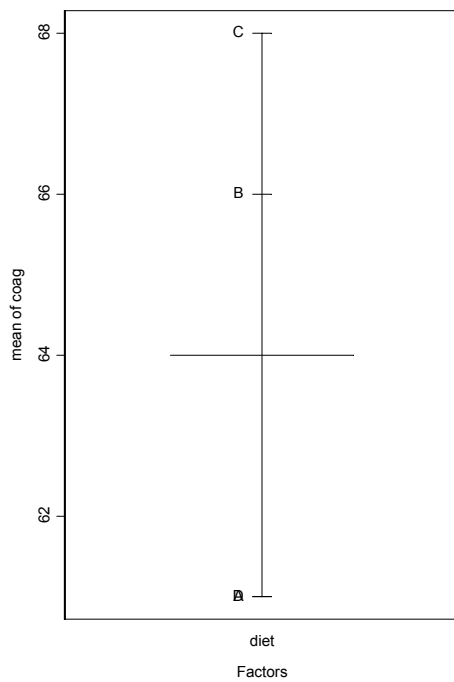
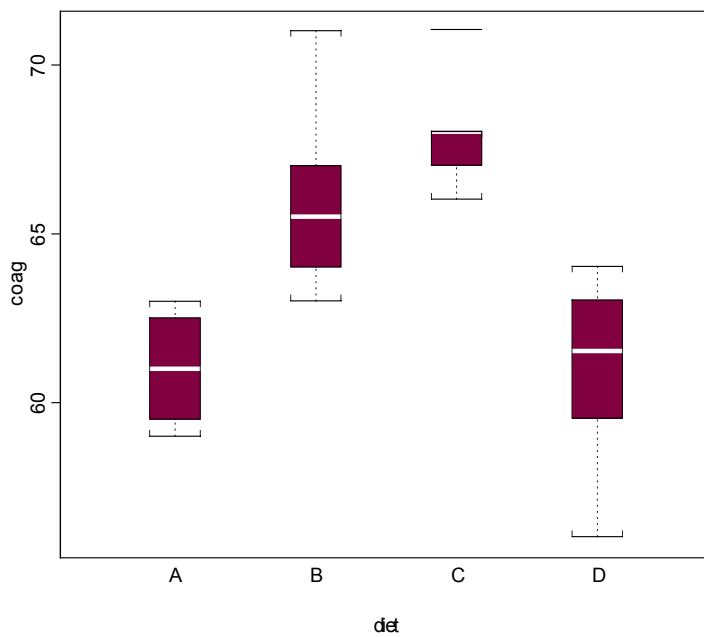


```
> coag_c(62,60,63,59,63,67,71,64,65,66,68,66,71,67,68,68,56,62,60,61,63,64,63,59)
> coag
[1] 62 60 63 59 63 67 71 64 65 66 68 66 71 67 68 68 56 62 60 61 63 64 63 59
> diet_factor(rep(LETTERS[1:4],c(4,6,6,8)))
> coag.df_data.frame(diet,coag)
> coag.df
  diet coag
1    A  62
2    A  60
3    A  63
4    A  59
5    B  63
6    B  67
7    B  71
8    B  64
9    B  65
10   B  66
11   C  68
12   C  66
13   C  71
14   C  67
15   C  68
16   C  68
17   D  56
18   D  62
19   D  60
20   D  61
21   D  63
22   D  64
23   D  63
24   D  59
> par(mfrow=c(1,2))
> plot.design(coag.df)
> plot.design(coag.df,fun=median)
```



```
> par(mfrow=c(1,1))
> plot.factor(coag.df)
```

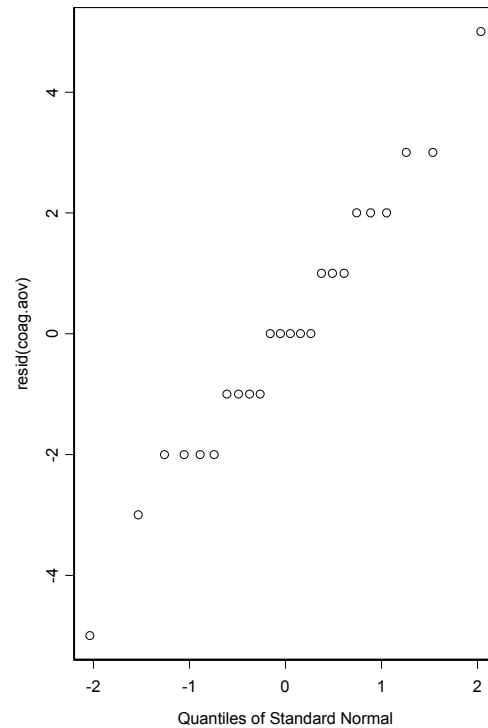
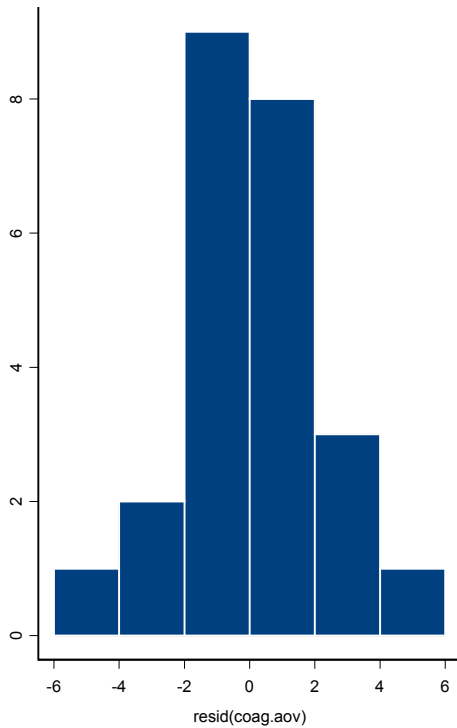


```
> coag.aov_aov(coag~diet,coag.df)
> summary(coag.aov)
      Df Sum of Sq Mean Sq F Value    Pr(F)
diet   3     228   76.0 13.57143 0.00004658471
Residuals 20     112    5.6
> fitted.values(coag.aov)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
```

```

61 61 61 61 66 66 66 66 66 66 68 68 68 68 68 68 61 61 61 61 61 61 61
> resid(coag.aov)
 1  2  3  4  5  6  7  8  9 10      11 12 13 14      15      16 17 18 19      20 21
22 23 24
 1 -1 2 -2 -3 1 5 -2 -1  0 5.828671e-016 -2  3 -1 5.828671e-016 5.828671e-016 -5  1 -1
-6.938894e-016  2  3  2 -2
> par(mfrow=c(1,2))
> hist(resid(coag.aov))
> qqnorm(resid(coag.aov))

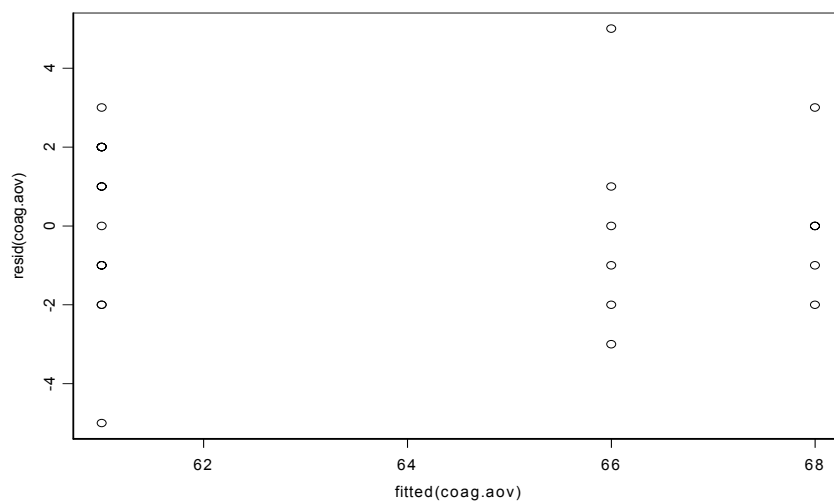
```



```

> par(mfrow=c(1,1))
> plot(fitted(coag.aov),resid(coag.aov))

```



```
> summary(coag.aov)[2,3]
[1] 5.6
> ks.gof(resid(coag.aov),dist="norm",mean=0,sd=sqrt(summary(coag.aov)[2,3]
+ ))
```

One-sample Kolmogorov-Smirnov Test  
Hypothesized distribution = normal

```
data: resid(coag.aov)
ks = 0.125, p-value = 0.8035
alternative hypothesis: True cdf is not the normal distn. with the specified parameters
> model.tables(coag.aov)
```

Tables of effects

```
diet
  A B C D
-3 2 4 -3
rep 4 6 6 8
Warning messages:
  Model was refit to allow projection in: model.tables.aov(coag.aov)
> model.tables(coag.aov,type="means")
```

Tables of means  
Grand mean

64

```
diet
  A B C D
 61 66 68 61
rep 4 6 6 8
Warning messages:
  Model was refit to allow projection in: model.tables.aov(coag.aov, type = "means")
> multcomp(coag.aov,plot=T)
```

95 % simultaneous confidence intervals for specified  
linear combinations, by the Tukey method

critical point: 2.7987  
response variable: coag

intervals excluding 0 are flagged by '\*\*\*\*\*'

|     | Estimate   | Std.Error | Lower Bound | Upper Bound |      |
|-----|------------|-----------|-------------|-------------|------|
| A-B | -5.00e+000 | 1.53      | -9.28       | -0.725      | **** |
| A-C | -7.00e+000 | 1.53      | -11.30      | -2.720      | **** |
| A-D | -1.64e-014 | 1.45      | -4.06       | 4.060       |      |
| B-C | -2.00e+000 | 1.37      | -5.82       | 1.820       |      |
| B-D | 5.00e+000  | 1.28      | 1.42        | 8.580       | **** |

C-D 7.00e+000 1.28 3.42 10.600 \*\*\*\*

