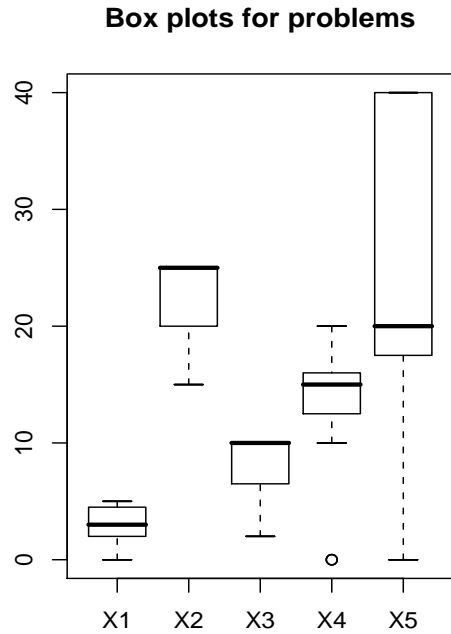
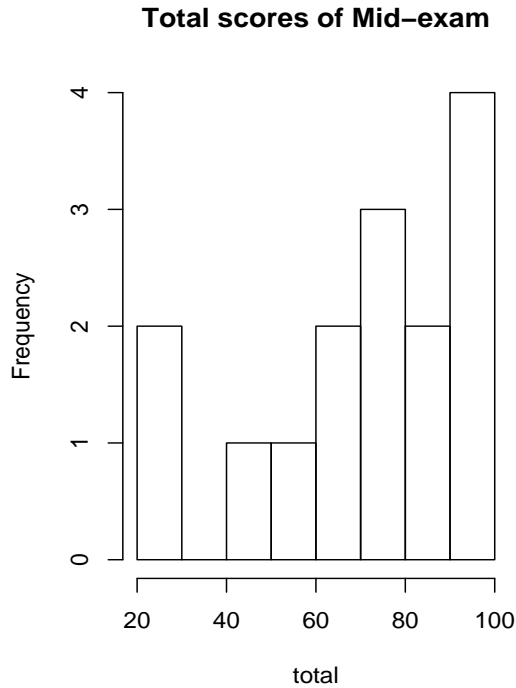


다변량분석 중간고사 성적공고

- 성적분포



- 문항간 상관관계

```
> cor(a)
      X1      X2      X3      X4      X5
X1  1.000000 0.45455681 -0.37296649 0.5096549 0.57489964
X2  0.4545568 1.00000000 0.02925403 0.6168880 0.28696737
X3 -0.3729665 0.02925403 1.00000000 0.1539938 0.03987602
X4  0.5096549 0.61688796 0.15399377 1.0000000 0.58719320
X5  0.5748996 0.28696737 0.03987602 0.5871932 1.00000000
```

- PCA

```
> a<-sc[,-c(1:2,8)]
> m<-apply(a, 2, mean)
> s<-apply(a, 2, sd)
> x<-sweep(a, 2, m, "-")
> x<-sweep(x, 2, s, "/")
> p1<-princomp(x)
```

Loadings:

	Comp.1	Comp.2	Comp.3	Comp.4	Comp.5
X1	-0.511	0.387		-0.458	0.609

```

X2 -0.460 -0.146 -0.720 -0.291 -0.404
X3      -0.867  0.138 -0.380  0.287
X4 -0.538 -0.270      0.742  0.288
X5 -0.485      0.671 -0.103 -0.549

```

```

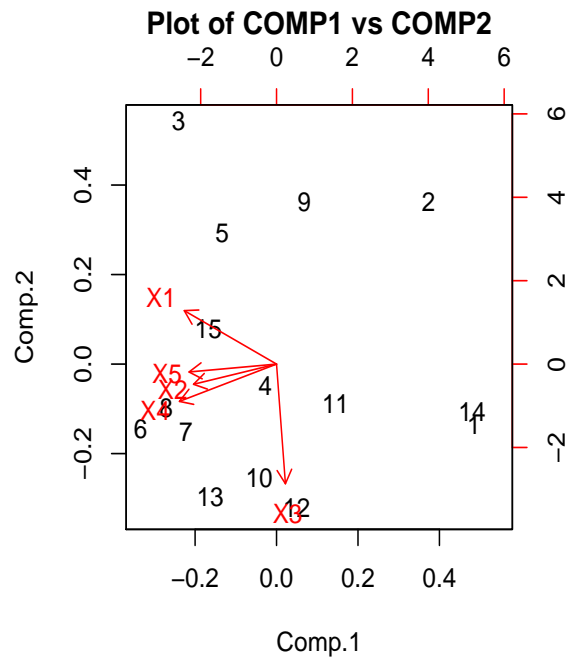
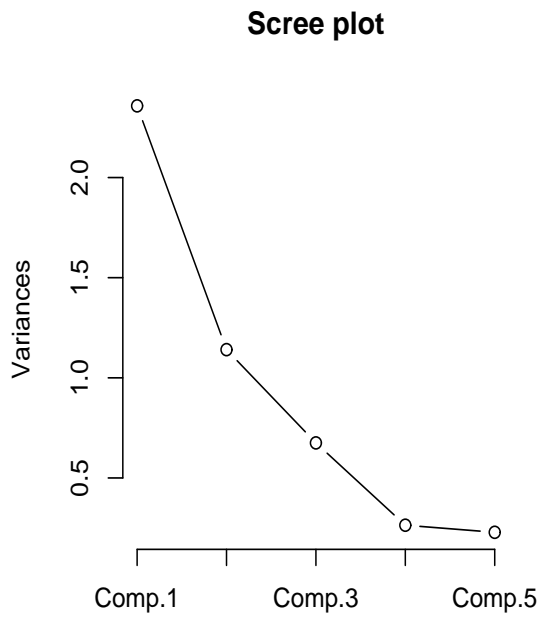
                Comp.1 Comp.2 Comp.3 Comp.4 Comp.5
SS loadings      1.0   1.0   1.0   1.0   1.0
Proportion Var   0.2   0.2   0.2   0.2   0.2
Cumulative Var   0.2   0.4   0.6   0.8   1.0

```

```

> plot(p1, type="lines", main="Scree plot")
> biplot(p1, main="Plot of COMP1 vs COMP2")

```



- 개인성적(`key=as.integer(학번/1000)%%(학번%%1000)`)

key	X1	X2	X3	X4	X5	total
3	2	20	5	0	0	27
7	4	20	5	10	15	54
9	0	15	10	0	20	45
11	5	25	10	20	40	100
19	0	20	10	0	0	30
70	2	25	10	17	20	74
74	5	25	8	15	20	73
87	3	15	10	15	20	63
100	4	20	5	15	40	84
153	2	25	10	20	35	92
218	4	25	10	15	40	94
303	5	25	10	15	40	95
347	2	20	8	15	40	85
455	5	25	2	15	30	77
511	1	25	10	20	5	61
mean	2.93	22.00	8.20	12.80	24.33	70.27
sd	1.79	3.68	2.65	7.10	14.86	23.21

- Positioning MAP(MDS)

