Statistika
Vaja 3

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2 Mere variacije in rangi

Naloga 1 (Naloga V03/2)

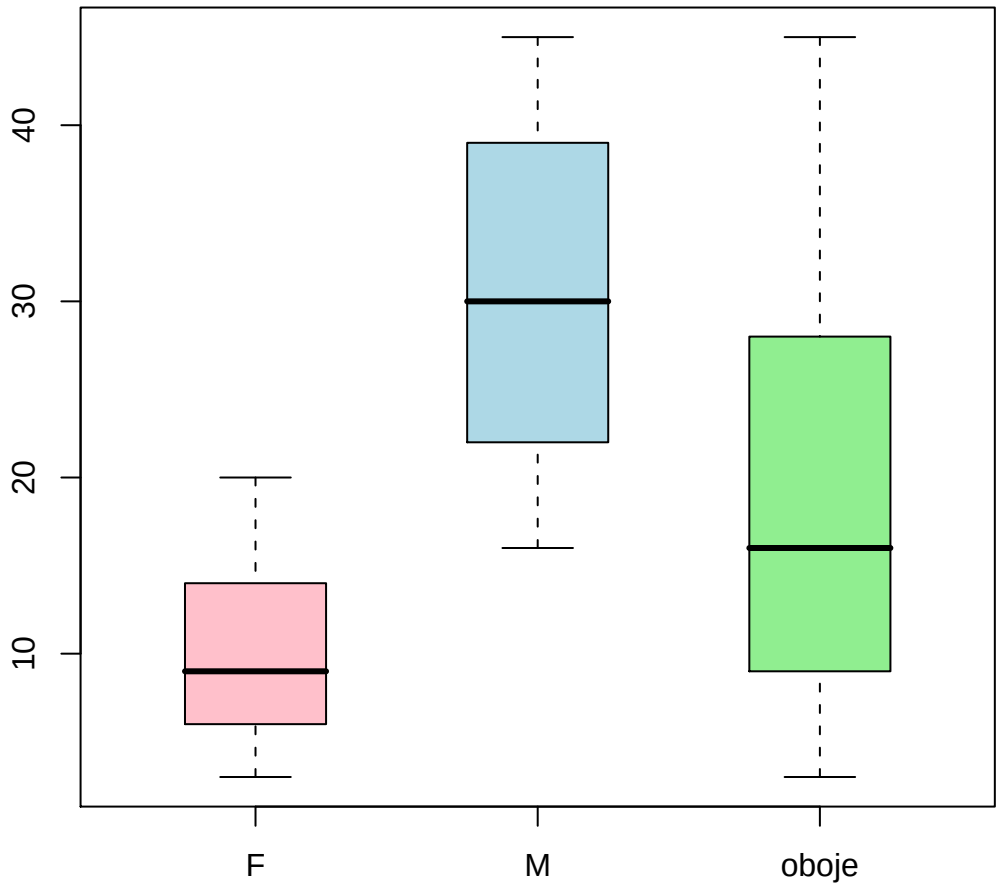
3.2 Zgornji ranžirni vrsti ustrezata rezultatom meritev pri samicah oz. samcih. Kolikšna je skupna varianca? Kolikšen del variance odpade na vpliv spola, kolikšen pa na druge vplive?

```
> samice=c(3 ,5, 6, 7, 8, 10, 12, 14, 16, 20)
 [1]  3  5  6  7  8 10 12 14 16 20
> samci=c(6, 10, 12, 16, 20, 28, 29, 30, 35)+10
[1] 16 20 22 26 30 38 39 40 45
> skupaj=c(samice,samci)
 [1]  3  5  6  7  8 10 12 14 16 20 16 20 22 26 30 38 39 40 45
> varF=Var(samice)
[1] 25.89
> varM=Var(samci)
[1] 93.55556
> meanF=mean(samice)
[1] 10.1
> meanM=mean(samci)
[1] 30.66667

> nF=length(samice)
[1] 10
> nM=length(samci)
[1] 9
> varS=Var(skupaj)
[1] 163.3961
```

```
> meanS=mean(skupaj)
[1] 19.84211
> nS=length(skupaj)
[1] 19
> stat=data.frame(n=c(nF,nM,nS),mu=c(meanF,meanM,meanS),var=c(varF,varM,varS))
   n       mu       var
1 10 10.10000  25.89000
2  9 30.66667  93.55556
3 19 19.84211 163.39612
> dimnames(stat)[[1]]=c("samice","samci","skupaj")
[1] "samice" "samci"  "skupaj"

> spol <- c(rep("F",nF),rep("M",nM))
> oboje <- rep("oboje",nF+nM)
> boxplot(split(rep(skupaj,2),list(c(oboje,spol))),boxwex=0.5,col=c("pink","li
```




```
> my.latex(round(stat,2),caption="Opis")
```

Tabela 1: Opis

object	n	mu	var
samice	10	10.10	25.89
samci	9	30.67	93.56
skupaj	19	19.84	163.40

File: round.xls

```
> mu.Var=sum(nF*varF+nM*varM)/sum(nF+nM)
[1] 57.9421
> Var.mu=sum(nF*meanF^2+nM*meanM^2)/sum(nF+nM)-meanS^2
[1] 105.4540
> skupna.var=mu.Var+Var.mu
[1] 163.3961
> drugo=mu.Var/varS
[1] 0.3546113
> spol=Var.mu/varS
[1] 0.6453887
> spol+drugo
[1] 1
```