

Uebung 2

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Aufgabe 1

```
select max(SEPALLENGTH) + 0.000001 as max from iris;  
select min(SEPALLENGTH) as min from iris;  
select floor(log(2,count(*)))+1 as k from iris;
```

```
# SQL> select max(SEPALLENGTH) + 0.000001 as max from iris;
```

```
#      MAX
```

```
# -----
```

```
# 7.9E+000
```

```
# SQL> select min(SEPALLENGTH) as min from iris;
```

```
#      MIN
```

```
# -----
```

```
# 4.3E+000
```

```
# SQL> select floor(log(2,count(*)))+1 as k from iris;
```

```
#      K
```

```
# -----
```

```
#      8
```

Aufgabe 1

```
select floor((SEPALLENGTH-4.3)/(7.9-4.3)*8)+1 as bin, count(*)
  from iris
  group by floor((SEPALLENGTH-4.3)/(7.9-4.3)*8)+1
  order by bin asc;
  BIN  COUNT(*)
```

```
#-----
# 1.0E+000    11
# 2.0E+000    34
# 3.0E+000    20
# 4.0E+000    30
# 5.0E+000    25
# 6.0E+000    18
# 7.0E+000     6
# 8.0E+000     5
# 9.0E+000     1
# 9 rows selected.
Fehler!!!
```

Aufgabe 1

```
select floor((SEPALLENGTH-4.3)/(7.900001-4.3)*8)+1 as bin, count(*)
from iris
group by floor((SEPALLENGTH-4.3)/(7.900001-4.3)*8)+1
order by bin asc;
```

```
# SQL> select floor((SEPALLENGTH-4.3)/(7.900001-4.3)*8)+1 as bin, count(*)
# 2 from iris
# 3 group by floor((SEPALLENGTH-4.3)/(7.900001-4.3)*8)+1
# 4 order by bin asc;
#   BIN  COUNT(*)
# -----
# 1.0E+000    11
# 2.0E+000    34
# 3.0E+000    20
# 4.0E+000    30
# 5.0E+000    25
# 6.0E+000    18
# 7.0E+000     6
# 8.0E+000     6
# 8 rows selected.
```

Aufgabe 1

```
select
  ((SEPALLENGTH-(select min(SEPALLENGTH) from iris))/
  ((select max(SEPALLENGTH)+0.000001 from iris)-(select
    min(SEPALLENGTH) from iris))*
  (select floor(log(2,count(*)))+1 as k from iris))+1 as bin, count(*)
from iris
group by
  ((SEPALLENGTH-(select min(SEPALLENGTH) from iris))/
  ((select max(SEPALLENGTH)+0.000001 from iris)-(select
    min(SEPALLENGTH) from iris))*
  (select floor(log(2,count(*)))+1 as k from iris))+1
order by bin asc;
# (Fehler: subselect in Group by nicht erlaubt)
```

Aufgabe 1

```
# Verschiebe Berechnung von bin in die
FROM Klausel
# um es in Group by verfuegbar zu machen
select bin, count(*)
from (select floor((SEPALLENGTH-
    4.3)/(7.900001-4.3)*8)+1 as bin from iris)
group by bin
order by bin asc;
```

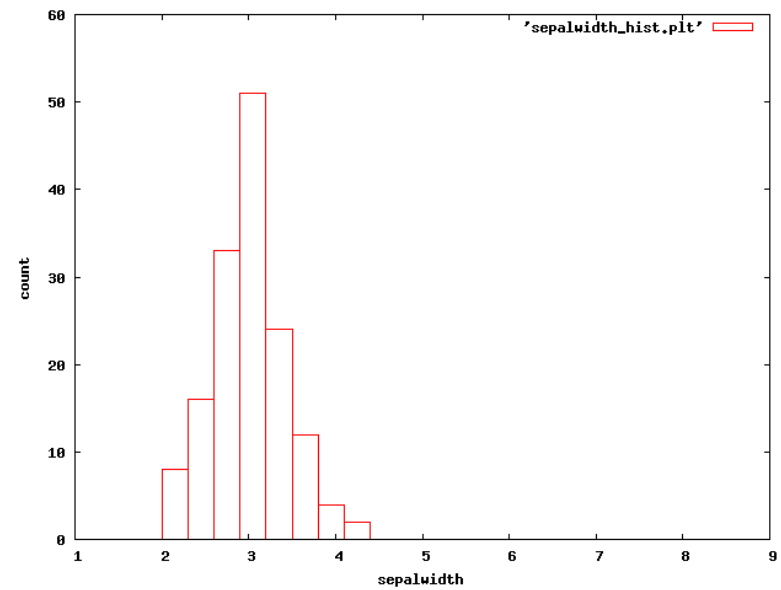
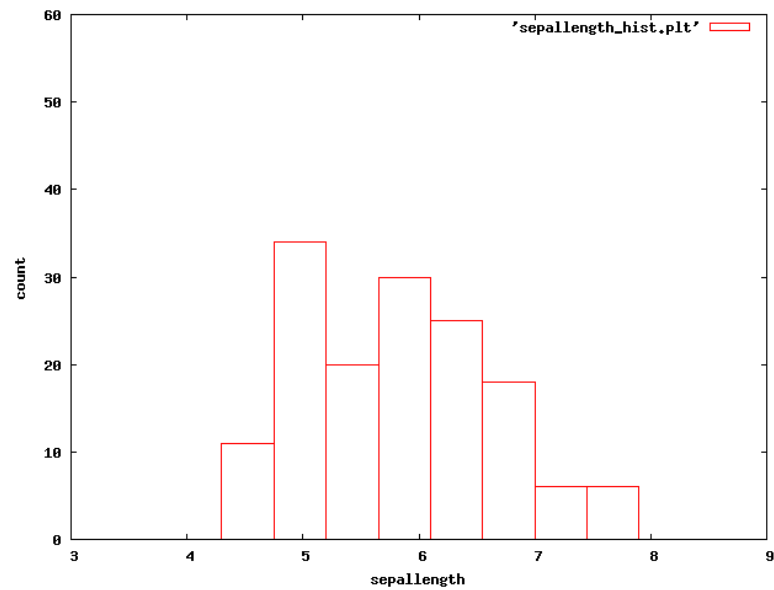
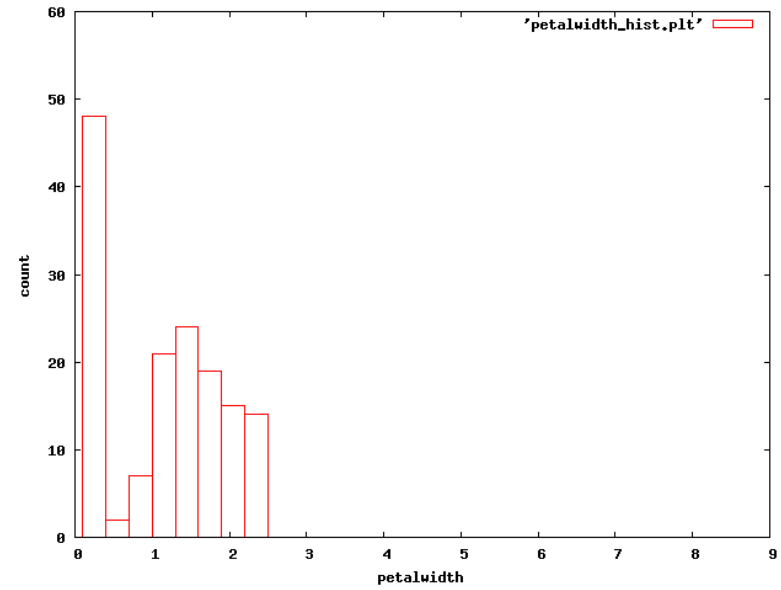
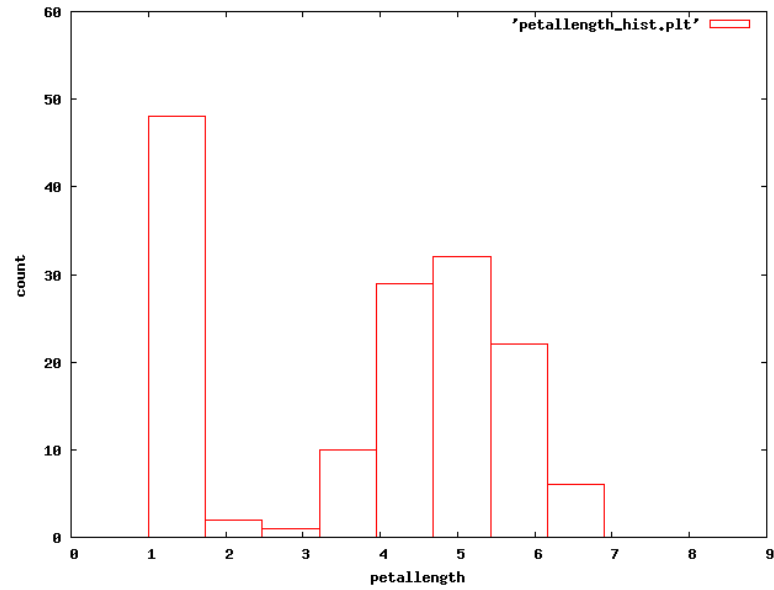
Aufgabe 1

```
select bin, count(*)
from (
  select
    floor((SEPALLENGTH-(select min(SEPALLENGTH) from
iris)))/
    ((select max(SEPALLENGTH)+0.000001 from iris)-
(select min(SEPALLENGTH) from iris))*
    (select floor(log(2,count(*)))+1 as k from iris))+1 as bin
  from iris)
group by bin
order by bin asc;
```

Aufgabe 1

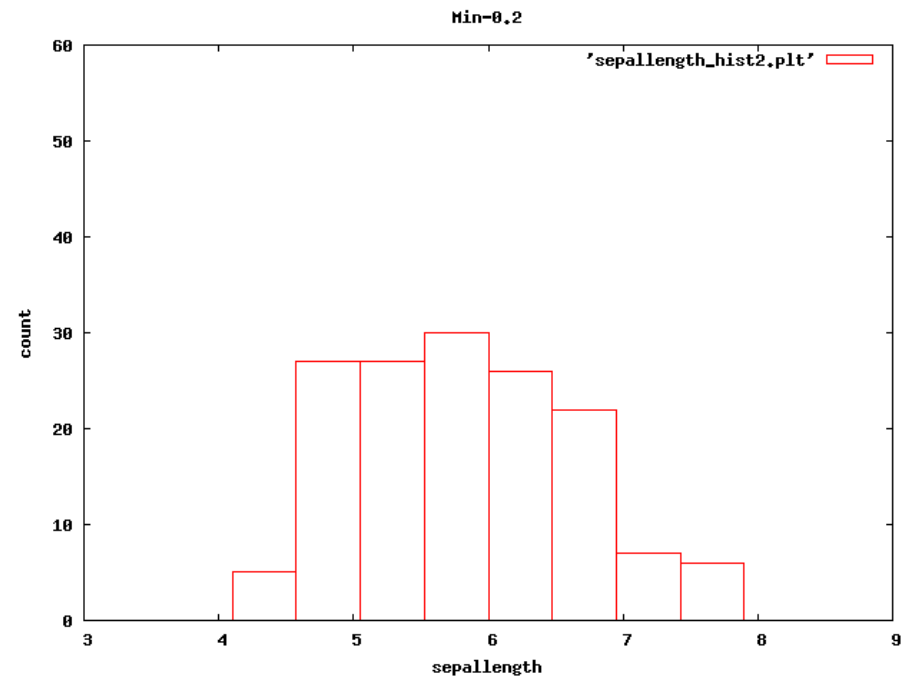
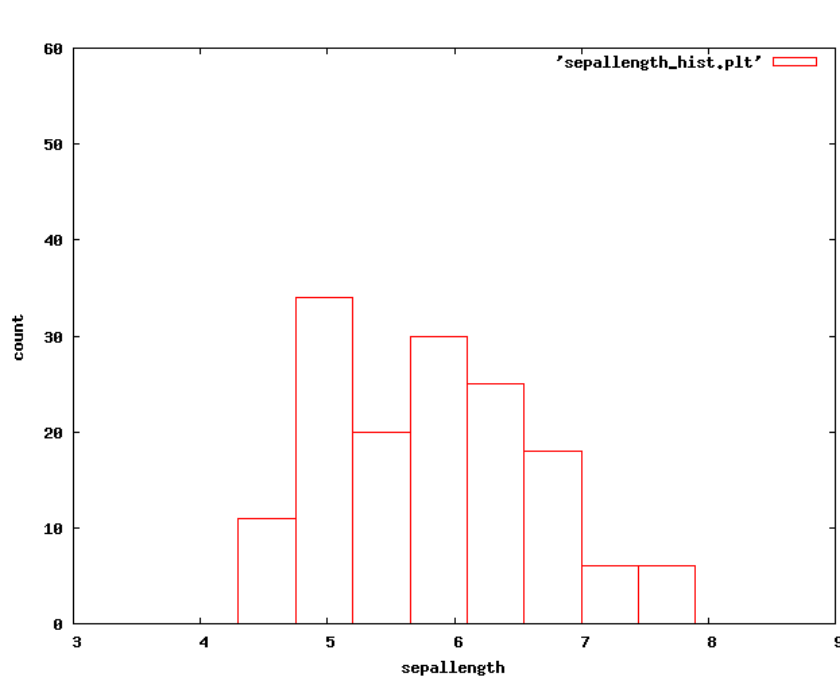
```
select bincenter, count(*)
from (
  select
    (floor((SEPALLENGTH-(select min(SEPALLENGTH) from iris))/
    ((select max(SEPALLENGTH)+0.000001 from iris)-(select
    min(SEPALLENGTH) from iris))*
    (select floor(log(2,count(*)))+1 as k from iris)) + 0.5) *
    ((select max(SEPALLENGTH)+0.000001 from iris)-(select
    min(SEPALLENGTH) from iris))/
    (select floor(log(2,count(*)))+1 as k from iris) +
    (select min(SEPALLENGTH) from iris)
    as bincenter
  from iris)
group by bincenter
order by bincenter asc;
```


Aufgabe 1



Aufgabe 2

- Einflußfaktoren
 - der Ursprung, in den Beispielen oben das Minimum, relativ zufaellige Groesse, nicht steuerbar
 - Bingroesse, steuerbar, durch ausprobieren bekommt man aussagekraeftige Histogramme



Aufgabe 3

- Kumulative Histogramme

```
select bincenter, SUM(cnt) OVER (ORDER BY bincenter asc
RANGE UNBOUNDED PRECEDING) cntsum
from (
select bincenter, count(*) as cnt
from (
  select
    (floor((PETALWIDTH-(select min(PETALWIDTH) from iris)))/
    ((select max(PETALWIDTH)+0.000001 from iris)-(select min(PETALWIDTH) from iris))*
    (select floor(log(2,count(*)))+1 as k from iris)) + 0.5) *
    ((select max(PETALWIDTH)+0.000001 from iris)-(select min(PETALWIDTH) from iris))/
    (select floor(log(2,count(*)))+1 as k from iris) +
    (select min(PETALWIDTH) from iris)
  as bincenter
  from iris)
group by bincenter
)
order by bincenter asc;
```

Aufgabe 3

