```
1. MATLAB starten
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a) Im UNIX/Linux-Terimal (im Verzeichnis mit den eigenen m-Files):
arueegg@archimedes% matlab &
b) In WINDOWS entsprechenden Programm-Button anklicken.

2. Im Command Window:
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                          < M A T L A B >
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  To get started, select "MATLAB Help" from the Help menu.

>> 5-7

ans =

    -2

>> sin(pi/4)

ans =

    0.7071

>> format long

>> sin(pi/4)

ans =

   0.70710678118655

>> sin(pi/4)/sqrt(2)

ans =

   0.50000000000000

>> eps

ans =

     2.220446049250313e-16

>> M=[1 2 3 4; 5 6 7 8; 9 0 1 2; 3 4 5 6]

M =

     1     2     3     4
     5     6     7     8
     9     0     1     2
     3     4     5     6

>> cos(M(1,2))+M(3,3)^3-M(4,3)

ans =

  -4.41614683654714
```



```
>> 2:4

ans =

     2     3     4

>> M(2:4,[1,4])

ans =

     5     8
     9     2
     3     6

>> transpose(M)

ans =

     1     5     9     3
     2     6     0     4
     3     7     1     5
     4     8     2     6


>> E=eye(3)

E =

     1     0     0
     0     1     0
     0     0     1

>> diag(E)

ans =

     1
     1
     1

>> help eye

 EYE Identity matrix.
    EYE(N) is the N-by-N identity matrix.

    EYE(M,N) or EYE([M,N]) is an M-by-N matrix with 1's on
    the diagonal and zeros elsewhere.

    EYE(SIZE(A)) is the same size as A.

    See also ONES, ZEROS, RAND, RANDN.

>> inv(E)

ans =

     1     0     0
     0     1     0
     0     0     1

>> M+E
```

```
??? Error using ==> +
Matrix dimensions must agree.

>> M+eye(4)

ans =

     2     2     3     4
     5     7     7     8
     9     0     2     2
     3     4     5     7


>> M=M+eye(4);
>> M

M =

     2     2     3     4
     5     7     7     8
     9     0     2     2
     3     4     5     7

>> size(M)

ans =

     4     4

>> x = [1 2 3 4]

x =

     1     2     3     4

>> M*x'

ans =

    31
    72
    23
    54

>> M/x

ans =

   1.03333333333333
   2.40000000000000
   0.76666666666667
   1.80000000000000

>> x = -1:.01:1;
>> size(x)

ans =

     1   201

>> plot(x,sin(10*x.^2))
```



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3. Eigene Funktionen
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>> edit

Im sich oeffnenden Editor schreiben:

%Serie 5, Aufgabe 1

function s = sum1(n)
s = 0;
for k = 1:1:n
    s = s + 1/k;
end

Speichern als sum1.m.
Ausfuehren im Command Window:

>> sum1(100)

ans =

   5.18737751763962

>> help sum1

 Serie 5, Aufgabe 1


4. MATLAB beenden
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>> exit
```