

Laboratory 7

[Source](#)

Exercise 1

current directory path

```
pwd
```

```
ans =  
'C:\Users\kamaj\code\MAPT\mapt2\lab7'
```

list workspace variables

```
whos
```

Name	Size	Bytes	Class	Attributes
ans	1x35	70	char	

list files in current directory

```
ls
```

```
.          ..          Ex_1.m      Ex_2.m      Ex_3.m      first_function.m  first_s
```

Exercise 3

```
clear all;
```

```
% matrix operations/operacje na macierzach
```

```
A = [1 2 3 4 5; 6 7 8 9 5];
```

```
A = [A' A'; A' A']
```

```
A = 10x4
```

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

```
%% if, else if
```

```
if size(A,1)==size(A,2)
```

```
    disp(' the same number of the columns and rows ')
```

```
elseif size(A,1)<size(A,2)
```

```
    disp(' more columns than rows ')
```

```
else
```

```
    disp(' more rows than columns ')
```

```
end
```

more rows than columns

```
%% petla for  
disp(' for loop')
```

for loop

```
[rows, columns] = size(A)
```

```
rows = 10  
columns = 4
```

```
for k = 1:1:rows  
    disp('iterator value:')  
    k  
    disp('k-th row of the matrix A:')  
    A(k,:)   
    % pause(1)  
end
```

```
iterator value:  
k = 1  
k-th row of the matrix A:  
ans = 1x4  
    1    6    1    6  
iterator value:  
k = 2  
k-th row of the matrix A:  
ans = 1x4  
    2    7    2    7  
iterator value:  
k = 3  
k-th row of the matrix A:  
ans = 1x4  
    3    8    3    8  
iterator value:  
k = 4  
k-th row of the matrix A:  
ans = 1x4  
    4    9    4    9  
iterator value:  
k = 5  
k-th row of the matrix A:  
ans = 1x4  
    5    5    5    5  
iterator value:  
k = 6  
k-th row of the matrix A:  
ans = 1x4  
    1    6    1    6  
iterator value:  
k = 7  
k-th row of the matrix A:  
ans = 1x4  
    2    7    2    7  
iterator value:  
k = 8  
k-th row of the matrix A:
```

```

ans = 1x4
     3     8     3     8
iterator value:
k = 9
k-th row of the matrix A:
ans = 1x4
     4     9     4     9
iterator value:
k = 10
k-th row of the matrix A:
ans = 1x4
     5     5     5     5

```

```

kk = [4 1 3 5 4]

```

```

kk = 1x5
     4     1     3     5     4

```

```

for k = kk
    disp('iterator value:')
    k
    disp('k-th row of the matrix A:')
    A(k,:)
    % pause(1)
end

```

```

iterator value:
k = 4
k-th row of the matrix A:
ans = 1x4
     4     9     4     9
iterator value:
k = 1
k-th row of the matrix A:
ans = 1x4
     1     6     1     6
iterator value:
k = 3
k-th row of the matrix A:
ans = 1x4
     3     8     3     8
iterator value:
k = 5
k-th row of the matrix A:
ans = 1x4
     5     5     5     5
iterator value:
k = 4
k-th row of the matrix A:
ans = 1x4
     4     9     4     9

```

```

%% %% while loop/pętla while
disp(' While loop /Pętla while ')

```

```

While loop /Pętla while

```

```
[rows, columns] = size(A)
```

```
rows = 10  
columns = 4
```

```
m=1;  
while m < rows  
    disp('iterator value:')  
    m  
    disp('k-th row of the matrix A:')  
    A(m,:)  
    m = m + 1;  
end
```

```
iterator value:  
m = 1  
k-th row of the matrix A:  
ans = 1x4  
    1    6    1    6  
iterator value:  
m = 2  
k-th row of the matrix A:  
ans = 1x4  
    2    7    2    7  
iterator value:  
m = 3  
k-th row of the matrix A:  
ans = 1x4  
    3    8    3    8  
iterator value:  
m = 4  
k-th row of the matrix A:  
ans = 1x4  
    4    9    4    9  
iterator value:  
m = 5  
k-th row of the matrix A:  
ans = 1x4  
    5    5    5    5  
iterator value:  
m = 6  
k-th row of the matrix A:  
ans = 1x4  
    1    6    1    6  
iterator value:  
m = 7  
k-th row of the matrix A:  
ans = 1x4  
    2    7    2    7  
iterator value:  
m = 8  
k-th row of the matrix A:  
ans = 1x4  
    3    8    3    8  
iterator value:  
m = 9  
k-th row of the matrix A:  
ans = 1x4  
    4    9    4    9
```