

---

## Table of Contents

.....	1
4 choice .....	1
KW 4 choice .....	2
SRT .....	7
KW SRT .....	7

```
close all; clear all; clc;
```

## 4 choice

```
directory = uigetdir;
if directory~=0
    filenames = dir(directory);

if isempty(filenames)==0;

dataAll4=[];
correctAll4=[];
i=0;
j=1;
k=1;

for idir = 3:size(filenames,1)
%disp(['Filename: ' filenames(idir).name]);

filename = filenames(idir).name;

A=importdata([directory,'\ ',filename]);

i=i+1;

if i==9
    i=1;
    j=j+100;
    k=k+1;
end

data4=A.data(11:end,7); %% data RT - bez practice faze
correct4=sum(A.data(11:end,11));

dataAll4(j:j+99,i)=abs(data4(:,1));
correctAll4(k,i)=correct4(:,1);

clear A data4 correct 4
end
end
end
```

---

```
clear directory filenames idir filename;
```

## KW 4 choice

```
data4KW=[];
correct4KW=[];
grp4=[];

for i=1:8
    data4KW((600*(i-1))+1:i*600,1)=dataAll4(:,i);
    correct4KW((6*(i-1))+1:i*6,1)=correctAll4(:,i);
    grp4((600*(i-1))+1:i*600,1)=i;
    grp4c((6*(i-1))+1:i*6,1)=i;

end

[p,tbl,stats] = kruskalwallis(data4KW,grp4,'off')

c=multcompare(stats,'CType','dunn-sidak')

saveas(gcf,[pwd, '\pics\4choice'],'png')
saveas(gcf,[pwd, '\pics\4choice'],'fig')

xlswrite('results.xlsx',tbl,'4 choice','A1')
xlswrite('results.xlsx','p','4 choice','A6')
xlswrite('results.xlsx',p,'4 choice','B6')
xlswrite('results.xlsx',c,'4 choice','A8')

figure
boxplot(data4KW,grp4)
xlabel('M##ení')
ylabel('Reak#ní #as (ms)')
saveas(gcf,[pwd, '\pics\4choiceBox'],'png')
saveas(gcf,[pwd, '\pics\4choiceBox'],'eps')

[p,tbl,stats] = kruskalwallis(correct4KW,grp4c,'off')

c=multcompare(stats,'CType','dunn-sidak')

saveas(gcf,[pwd, '\pics\4choiceC'],'png')
saveas(gcf,[pwd, '\pics\4choiceC'],'fig')

xlswrite('results.xlsx',tbl,'4 choice C','A1')
xlswrite('results.xlsx','p','4 choice C','A6')
xlswrite('results.xlsx',p,'4 choice C','B6')
xlswrite('results.xlsx',c,'4 choice C','A8')

figure
boxplot(correct4KW,grp4c)
xlabel('M##ení')
ylabel('Po#et správných odpov#dí')
saveas(gcf,[pwd, '\pics\4choiceBoxC'],'png')
saveas(gcf,[pwd, '\pics\4choiceBoxC'],'eps')
```

---

p =

6.2207e-09

tbl =

4x6 cell array

Columns 1 through 5

'Source'	'SS'	'df'	'MS'	'Chi-sq'
'Groups'	[9.9590e+07]	[ 7]	[1.4227e+07]	[51.8603]
'Error'	[9.1162e+09]	[4792]	[1.9024e+06]	[ ]
'Total'	[9.2158e+09]	[4799]	[ ]	[ ]

Column 6

'Prob>Chi-sq'
[ 6.2207e-09]
[ ]
[ ]

stats =

struct with fields:

gnames: {8x1 cell}
n: [600 600 600 600 600 600 600 600]
source: 'kruskalwallis'
meanranks: [1x8 double]
sumt: 2656086

Note: Intervals can be used for testing but are not simultaneous confidence intervals.

c =

1.0000	2.0000	-326.9266	-77.5850	171.7566	1.0000
1.0000	3.0000	-610.9541	-361.6125	-112.2709	0.0002
1.0000	4.0000	-486.5982	-237.2567	12.0849	0.0813
1.0000	5.0000	-501.2607	-251.9192	-2.5776	0.0449
1.0000	6.0000	-215.5891	33.7525	283.0941	1.0000
1.0000	7.0000	-339.5599	-90.2183	159.1232	0.9998
1.0000	8.0000	-179.6557	69.6858	319.0274	1.0000
2.0000	3.0000	-533.3691	-284.0275	-34.6859	0.0107
2.0000	4.0000	-409.0132	-159.6717	89.6699	0.7322
2.0000	5.0000	-423.6757	-174.3342	75.0074	0.5655
2.0000	6.0000	-138.0041	111.3375	360.6791	0.9934
2.0000	7.0000	-261.9749	-12.6333	236.7082	1.0000
2.0000	8.0000	-102.0707	147.2708	396.6124	0.8507
3.0000	4.0000	-124.9857	124.3558	373.6974	0.9722

---

```

3.0000    5.0000  -139.6482  109.6933  359.0349  0.9946
3.0000    6.0000   146.0234  395.3650  644.7066  0.0000
3.0000    7.0000   22.0526  271.3942  520.7357  0.0192
3.0000    8.0000  181.9568  431.2983  680.6399  0.0000
4.0000    5.0000 -264.0041  -14.6625  234.6791  1.0000
4.0000    6.0000   21.6676  271.0092  520.3507  0.0196
4.0000    7.0000 -102.3032  147.0383  396.3799  0.8526
4.0000    8.0000   57.6009  306.9425  556.2841  0.0035
5.0000    6.0000   36.3301  285.6717  535.0132  0.0099
5.0000    7.0000  -87.6407  161.7008  411.0424  0.7102
5.0000    8.0000   72.2634  321.6050  570.9466  0.0016
6.0000    7.0000 -373.3124 -123.9708  125.3707  0.9732
6.0000    8.0000 -213.4082   35.9333  285.2749  1.0000
7.0000    8.0000  -89.4374  159.9042  409.2457  0.7297

```

p =

```
0.9988
```

tbl =

4x6 cell array

```

'Source'    'SS'          'df'    'MS'          'Chi-sq'
'Prob>Chi-sq'
'Groups'    [ 124.1667]   [ 7]    [ 17.7381]   [0.6378]  [
0.9988]
'Error'     [9.0263e+03]  [40]    [225.6583]   []
[]
'Total'     [9.1505e+03]  [47]          []           []
[]

```

stats =

struct with fields:

```

gnames: {8x1 cell}
n: [6 6 6 6 6 6 6 6]
source: 'kruskalwallis'
meanranks: [26.4167 25.5000 24.6667 26 22.7500 22.0833 25.8333
22.7500]
sumt: 738

```

Note: Intervals can be used for testing but are not simultaneous confidence intervals.

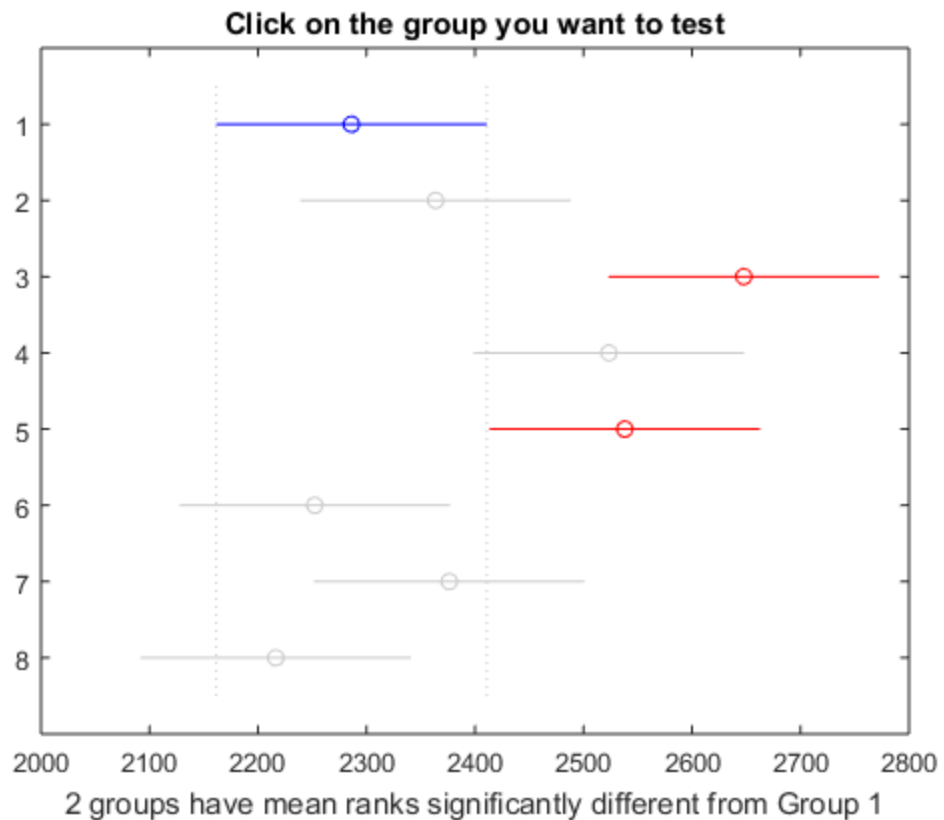
c =

```

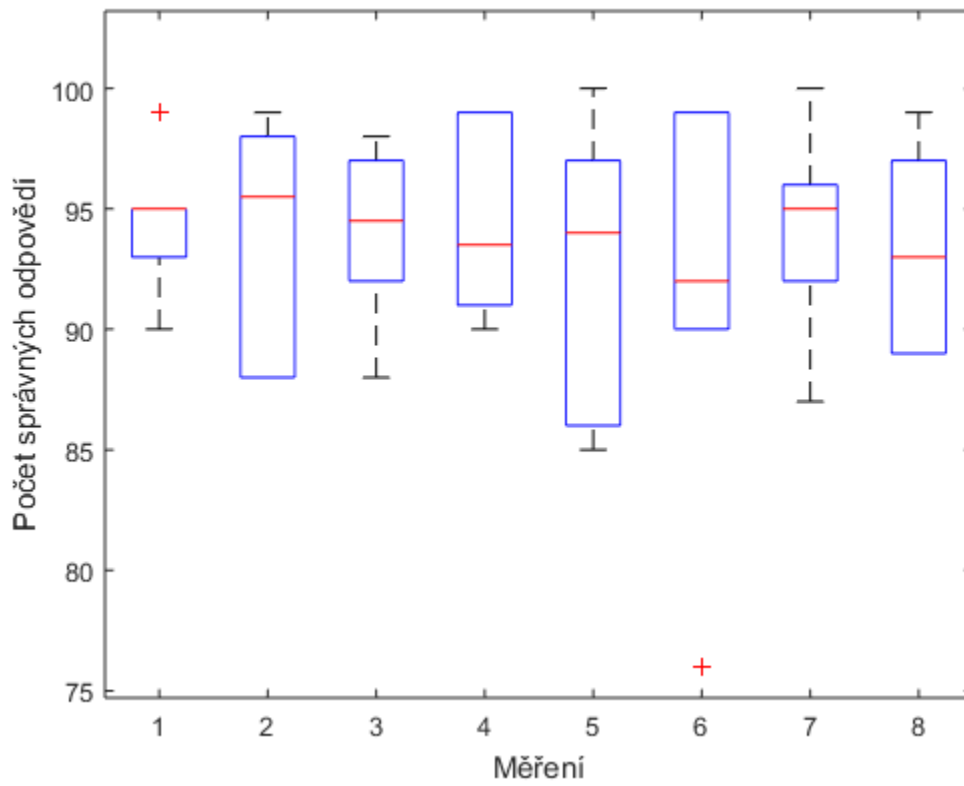
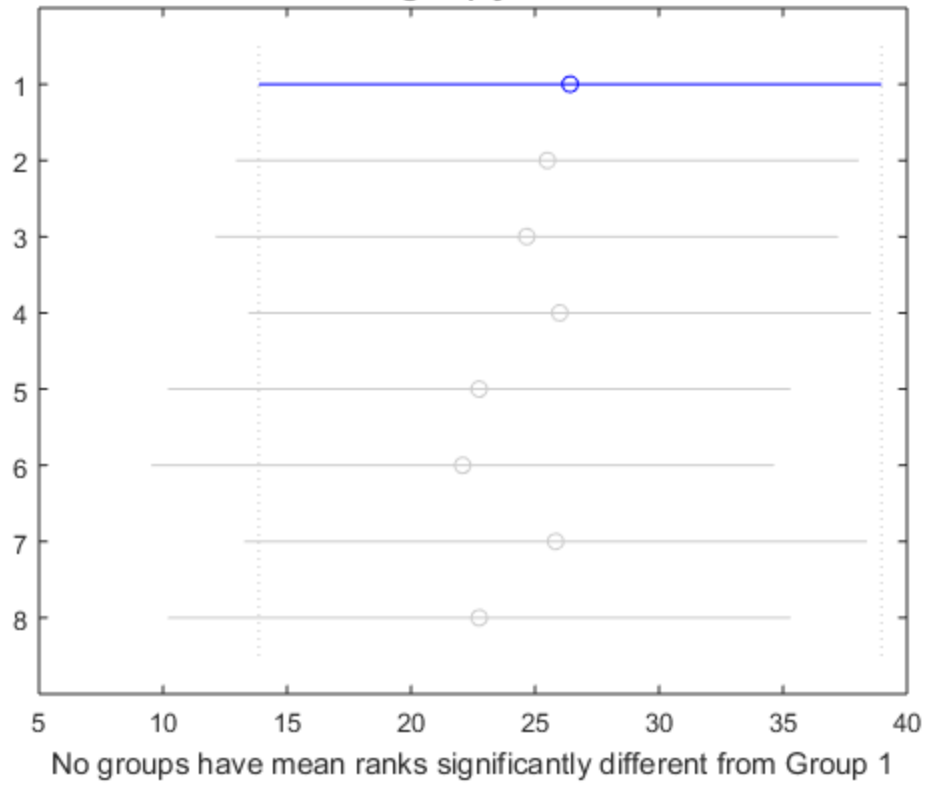
1.0000    2.0000  -24.1893   0.9167   26.0227   1.0000
1.0000    3.0000  -23.3560   1.7500   26.8560   1.0000
1.0000    4.0000  -24.6893   0.4167   25.5227   1.0000

```

1.0000	5.0000	-21.4393	3.6667	28.7727	1.0000
1.0000	6.0000	-20.7727	4.3333	29.4393	1.0000
1.0000	7.0000	-24.5227	0.5833	25.6893	1.0000
1.0000	8.0000	-21.4393	3.6667	28.7727	1.0000
2.0000	3.0000	-24.2727	0.8333	25.9393	1.0000
2.0000	4.0000	-25.6060	-0.5000	24.6060	1.0000
2.0000	5.0000	-22.3560	2.7500	27.8560	1.0000
2.0000	6.0000	-21.6893	3.4167	28.5227	1.0000
2.0000	7.0000	-25.4393	-0.3333	24.7727	1.0000
2.0000	8.0000	-22.3560	2.7500	27.8560	1.0000
3.0000	4.0000	-26.4393	-1.3333	23.7727	1.0000
3.0000	5.0000	-23.1893	1.9167	27.0227	1.0000
3.0000	6.0000	-22.5227	2.5833	27.6893	1.0000
3.0000	7.0000	-26.2727	-1.1667	23.9393	1.0000
3.0000	8.0000	-23.1893	1.9167	27.0227	1.0000
4.0000	5.0000	-21.8560	3.2500	28.3560	1.0000
4.0000	6.0000	-21.1893	3.9167	29.0227	1.0000
4.0000	7.0000	-24.9393	0.1667	25.2727	1.0000
4.0000	8.0000	-21.8560	3.2500	28.3560	1.0000
5.0000	6.0000	-24.4393	0.6667	25.7727	1.0000
5.0000	7.0000	-28.1893	-3.0833	22.0227	1.0000
5.0000	8.0000	-25.1060	0	25.1060	1.0000
6.0000	7.0000	-28.8560	-3.7500	21.3560	1.0000
6.0000	8.0000	-25.7727	-0.6667	24.4393	1.0000
7.0000	8.0000	-22.0227	3.0833	28.1893	1.0000



Click on the group you want to test



---

# SRT

```
directory = uigetdir;
if directory~=0
    filenames = dir(directory);

if isempty(filenames)==0;

dataAllSRT=[];
i=0;
j=1;

for idir = 3:size(filenames,1)
%disp(['Filename: ' filenames(idir).name]);

filename = filenames(idir).name;

A=xlsread([directory, '\',filename(1:end-5)]);

i=i+1;

if i==9
    i=1;
    j=j+20;
end

dataAllSRT(j:j+19,i)=abs(A(1:20,24));

end
end
end
```

# KW SRT

```
dataSRTKW=[];
grpSRT=[];

for i=1:8
    dataSRTKW((120*(i-1))+1:i*120,1)=dataAllSRT(:,i);
    grpSRT((120*(i-1))+1:i*120,1)=i;
end

[p,tbl,stats] = kruskalwallis(dataSRTKW,grpSRT,'off')

c=multcompare(stats,'CType','dunn-sidak')

saveas(gcf,[pwd, '\pics\SRT'],'png')
saveas(gcf,[pwd, '\pics\SRT'],'fig')

xlswrite('results.xlsx',tbl,'SRT','A1')
```

---

```

xlswrite('results.xlsx', 'p', 'SRT', 'A6')
xlswrite('results.xlsx', p, 'SRT', 'B6')
xlswrite('results.xlsx', c, 'SRT', 'A8')

boxplot(dataSRTKW, grpSRT)
xlabel('M##ení')
ylabel('Reak#ní #as (ms)')
saveas(gcf,[pwd, '\pics\SRTBox'], 'png')
saveas(gcf,[pwd, '\pics\SRTBox'], 'eps')

close all

p =

    0.0066

tbl =

4x6 cell array

Columns 1 through 5

    'Source'    'SS'          'df'          'MS'          'Chi-sq'
    'Groups'    [1.4975e+06] [ 7]          [2.1392e+05] [19.5603]
    'Error'     [7.1767e+07] [950]         [7.5544e+04] [ ]
    'Total'     [ 73264410] [957]         [ ]           [ ]

Column 6

    'Prob>Chi-sq'
    [ 0.0066]
    [ ]
    [ ]

stats =

struct with fields:

    gnames: {8x1 cell}
           n: [120 120 120 120 119 120 119 120]
    source: 'kruskalwallis'
    meanranks: [1x8 double]
    sumt: 44034

Note: Intervals can be used for testing but are not simultaneous
confidence intervals.

c =

    1.0000    2.0000 -169.7550  -58.4333    52.8883    0.9506
    1.0000    3.0000 -198.2508  -86.9292    24.3925    0.3441

```

---



---

1.0000	4.0000	-208.4883	-97.1667	14.1550	0.1675
1.0000	5.0000	-231.4539	-119.8986	-8.3434	0.0224
1.0000	6.0000	-244.1050	-132.7833	-21.4617	0.0056
1.0000	7.0000	-223.7144	-112.1591	-0.6039	0.0473
1.0000	8.0000	-212.9091	-101.5875	9.7341	0.1175
2.0000	3.0000	-139.8175	-28.4958	82.8258	1.0000
2.0000	4.0000	-150.0550	-38.7333	72.5883	0.9999
2.0000	5.0000	-173.0206	-61.4653	50.0900	0.9193
2.0000	6.0000	-185.6716	-74.3500	36.9716	0.6560
2.0000	7.0000	-165.2811	-53.7258	57.8295	0.9818
2.0000	8.0000	-154.4758	-43.1542	68.1675	0.9993
3.0000	4.0000	-121.5591	-10.2375	101.0841	1.0000
3.0000	5.0000	-144.5247	-32.9695	78.5858	1.0000
3.0000	6.0000	-157.1758	-45.8542	65.4675	0.9980
3.0000	7.0000	-136.7852	-25.2300	86.3253	1.0000
3.0000	8.0000	-125.9800	-14.6583	96.6633	1.0000
4.0000	5.0000	-134.2872	-22.7320	88.8233	1.0000
4.0000	6.0000	-146.9383	-35.6167	75.7050	1.0000
4.0000	7.0000	-126.5477	-14.9925	96.5628	1.0000
4.0000	8.0000	-115.7425	-4.4208	106.9008	1.0000
5.0000	6.0000	-124.4400	-12.8847	98.6706	1.0000
5.0000	7.0000	-104.0489	7.7395	119.5279	1.0000
5.0000	8.0000	-93.2441	18.3111	129.8664	1.0000
6.0000	7.0000	-90.9311	20.6242	132.1795	1.0000
6.0000	8.0000	-80.1258	31.1958	142.5175	1.0000
7.0000	8.0000	-100.9836	10.5716	122.1269	1.0000

*Published with MATLAB® R2017a*