

# main

August 12, 2021

## 1 Examine permutation based on female sample size

```
[1]: import re
import pandas as pd
from glob import iglob
```

### 1.1 Main

```
[2]: df = pd.DataFrame()
for filename in iglob("../_m/permutation_*/diffExpr_szVctl_FDR05.txt"):
    m = re.search("\d+", filename)
    dt = pd.read_csv(filename, sep='\t', index_col=0)
    dt["Permutation"] = m.group(0)
    df = pd.concat([df, dt], axis=0)
df.to_csv("permutations.csv")
df.shape
```

```
[2]: (3088, 17)
```

```
[3]: xx = df.groupby("Permutation").size()\
      .reset_index().rename(columns={0:"DEGs"})\
      .merge(pd.DataFrame({"Permutation": [str(x).zfill(2) for x in_
↪range(1,11)]}),
              on="Permutation", how="outer")\
      .fillna(0).sort_values("Permutation")
print("Median: %f" % xx.DEGs.median())
xx.DEGs.describe()
```

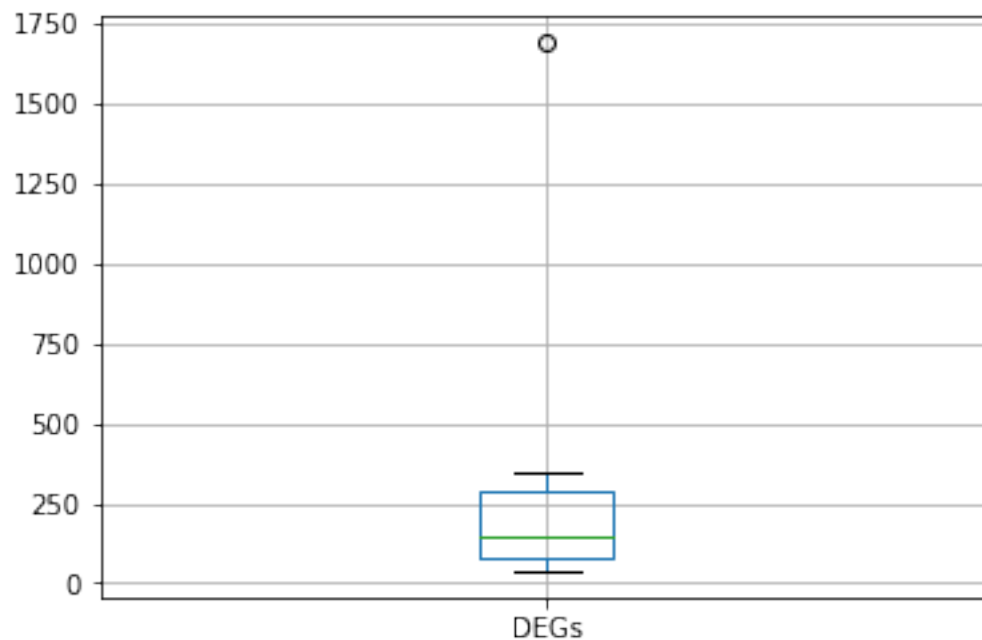
Median: 147.000000

```
[3]: count      10.000000
mean       308.800000
std        496.270939
min         38.000000
25%         75.000000
50%        147.000000
75%        289.750000
max       1688.000000
```

Name: DEGs, dtype: float64

```
[4]: xx.boxplot()
```

```
[4]: <AxesSubplot:>
```



```
[5]: female = pd.read_csv("../.../female_analysis/_m/genes/diffExpr_szVctl_FDR05.  
    ↪txt", sep='\t', index_col=0)  
print("There are %d DEGs with females!" % female.shape[0])
```

There are 922 DEGs with females!

```
[ ]:
```