In [24]:
```
from scipy.stats import spearmanr, pearsonr
```

In [25]:
```
import pandas as pd
df = pd.read_csv ('Ant16Data.csv')
df.head()
```

Out[25]:

		COMP	LOC	WMC	DIT	NO
0	org.apache.tools.ant.taskdefs.XSLTLoggerAware....	-0.730244	-0.896416	-0.584162	-0.14639
1	org.apache.tools.ant.taskdefs.Recorder.java	-0.235684	-0.205915	0.722329	-0.14639
2	org.apache.tools.ant.util.facade.Implementatio...	-0.674519	-0.723791	0.722329	0.24178
3	org.apache.tools.bzip2.CRC.java	1.779710	-0.378540	-0.584162	-0.14639
4	org.apache.tools.ant.taskdefs.optional.depend....	-0.477159	-0.378540	-1.237407	-0.14639

5 rows × 22 columns

In [26]:
```
cdf=df.corr(method ='spearman')
cdf.to_excel("Ant16_CorrCoef.xlsx")

#scipy.stats.spearmanr(nan_policy='omit')
```

In [27]:
```
def spearmanr_pval(x,y):
    return spearmanr(x,y)[1]
```

In [28]:
```
pdf=df.corr(method=spearmanr_pval)
pdf.to_excel("Ant16_corrP.xlsx")
```

In [29]:

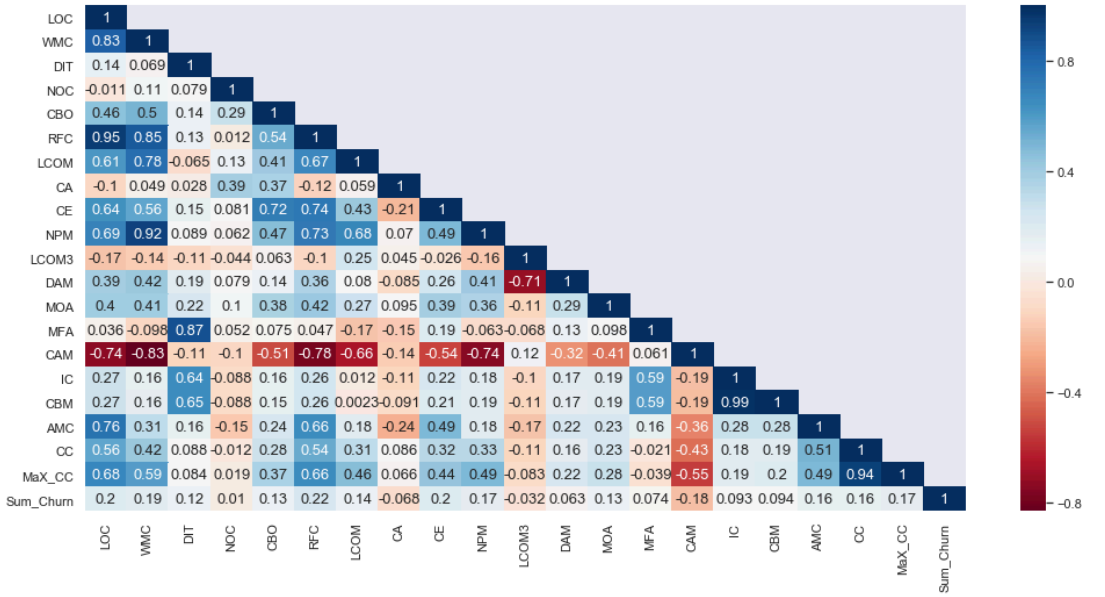
```
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np

#work withowt *
sns.set(rc = {'figure.figsize':(17,8)})
corr = df.corr(method = 'spearman')
np.ones(corr.shape)
np.tril(np.ones(corr.shape))
np.tril(np.ones(corr.shape)).astype(bool)
lower_triang_df = corr.where(np.tril(np.ones(corr.shape)).astype(bool))
sns.heatmap(lower_triang_df,annot = True, annot_kws={"size":13}, cmap="R


#to solve the bug of cutoff top and bottom
b, t = plt.ylim() # discover the values for bottom and top
b += 0.5 # Add 0.5 to the bottom
t -= 0.5 # Subtract 0.5 from the top
plt.ylim(b, t) # update the ylim(bottom, top) values



plt.savefig('Ant16_Corr_Matrix.png')
```



In [30]:

```
# #from scipy.stats import spearmanr
# from scipy.stats.mstats import spearmanr
# coef, p = spearmanr(df["IC"], df["CA"])
# print(coef)
# print(p)
```

In [ ]: