# W<sup>out</sup> : How to calculate?



Ignore self-loops

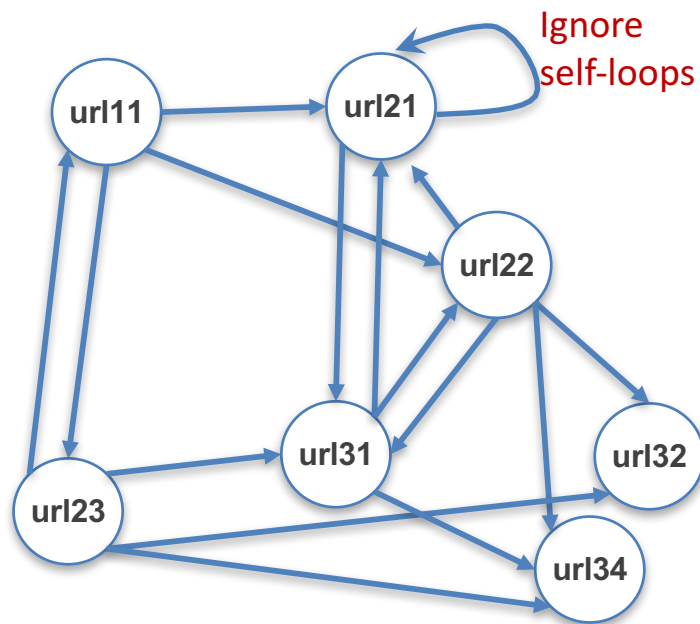$W^{out}_{(v,u)}$ is the weight of $link(v,u)$ calculated based on the number of outlinks of page $u$ and the number of out-links of all reference pages of page $v$.

$$W^{out}_{(v,u)} = \frac{O_u}{\sum_{p \in R(v)} O_p} \qquad (6)$$

where $O_u$ and $O_p$ represent the number of outlinks of page $u$ and page $p$, respectively. $R(v)$ denotes the reference page list of page $v$.

❖ **Reference pages** of url22 are url21, url31, url32 and url34
❖ **Ignore** self-loops (i.e. url21 to url21), and also parallel edges (if exist)

let's say we want to calculate wOut for a link from url22 to url21.

In example, **1** refers to **url21** , and out-degree of url21 is 1, **outDegree(url21) = 1.**

**2** refers to **url22** . **Reference pages** of page **url22** are **url21, url31, url32 and url34** (out links).

outDegree(url21) = 1 , outDegree(url31) = 3, outDegree(32)= **0** and outDegree(34) =**0.**

*As per the specs* , to avoid issues related to division by zero, out-degrees of 32 and 34 are considered to be **0.5.**

So, for the link **url22 to url21** , wOut[2][1] = (1) / (1+3+0.5+0.5) = 0.20 (same as in the log file).