**PageRank Simulations:**

Try simulating the following "world-wide webs". They all consist of the same 5 pages, but linked in different ways. As you build each, try to predict which pages will be ranked the highest and which ranked the lowest and then check your prediction in the simulator.

Your goal should be able to provide a convincing explanation for why the random surfer model produces the results it does.

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| **Web 1:**  ***No links – can only do random moves. Who is most popular?***    If there are no links on the page you are on, all you can do is jump to a new random page. | **Web 2:**  ***Page4 gets traffic from page1. Page 3 gets traffic from page0 and page2. Who is the most popular? Why?***    Page 0, 2, and 1 are equally popular because you can only get to any of them by random restart.  If you are on 0, 1, or 2, you may random restart, but are more likely to follow the link. Since two pages link to 3 and only one links to 4, 3 gets more traffic. |
| **Web 3:**  ***Page0 feeds pages 2 and 3. Page 1 feeds surfers to page4. Who is helped more by this? Page 4 or pages 2&3.***    Page 0 and 1 are equally popular because you can only get to any of them by random restart.  If you are on 0 or 1 you may random restart, but are more likely to follow a link. Since all the “link followers” from page 1 go to 4, while the “link followers” from 0 are split between two destinations, 4 is more popular. | **Web 4:**  ***Page5 gets traffic from page 2. Page 6 gets it from page 4. Does that mean they are equally popular? Why?***    Page 2 is more popular than page 4 because it has two inbound links.  Page 5 and 6 both get all the “link follows” from one other page, but because page 2 is more popular than 4, there are more people to follow its link to page 5 than there are on page 4 to follow the link to page 6. |