Graph

PageRank

- 公式（P15） example（P22）
- the features of **PageRank** & **Social Arithmetic（P24）**

Using MapReduce to execute the page rank（P31）

- example（P32-35）
- We cannot execute a MapReduce job inside a map（P38）
- **Iterative computing is difficult for MapReduce（P40）**
- **Drawbacks of MapReduce on Graph（P53）**

BSP and Pregel

- **GraphDB for storing the graph data**
  - 概述（P54）
  - **Benefits of using a GraphDB（P55）**
  - **Vertex-centric programing of an iteration（P56）**
- **Bulk Synchronous Parallel Model（P59）**
- **PageRank on Pregel example（P62-66）**
- PageRank on Pregel算法流程（P69)
- how **fault tolerant(P70)**
- **Summary of Pregel(P71)**

Pregel’s problem(solve:graphLab):

1. **programming model can be more friendly(P72)**
   a. **To solve problem-1: Shared memory and GraphLab(P77-78)**
      i. **Distributed Graph: Ghost vertices(P81)**
2. **the issue of BSP(P74-75)**
   a. To solve problem-2: Async
      i. **Asynchronous Scheduler(P85-86)**
         1. 可能出现的问题：race(P87)
         2. 解决方案：lock(P89-90）