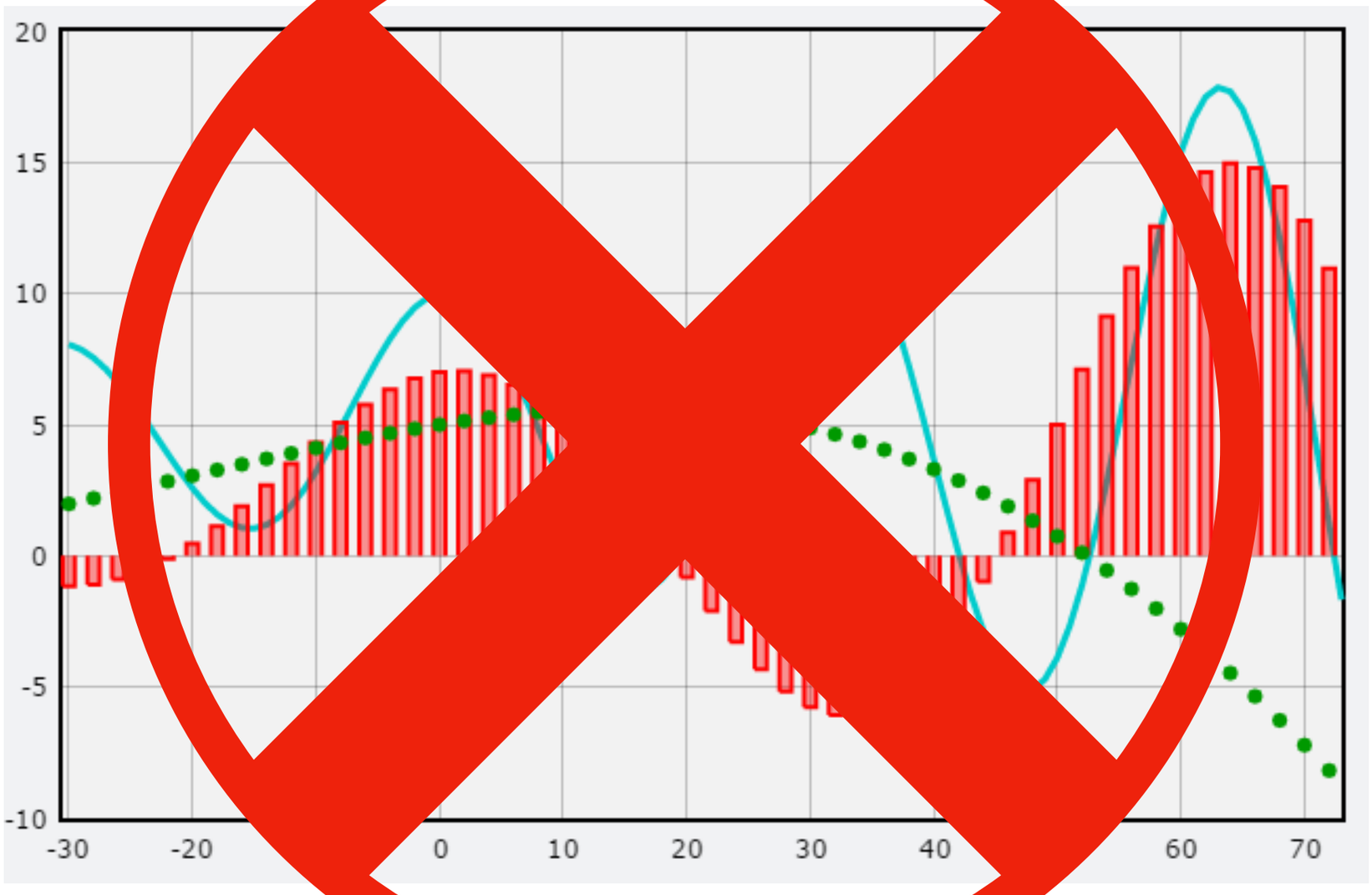
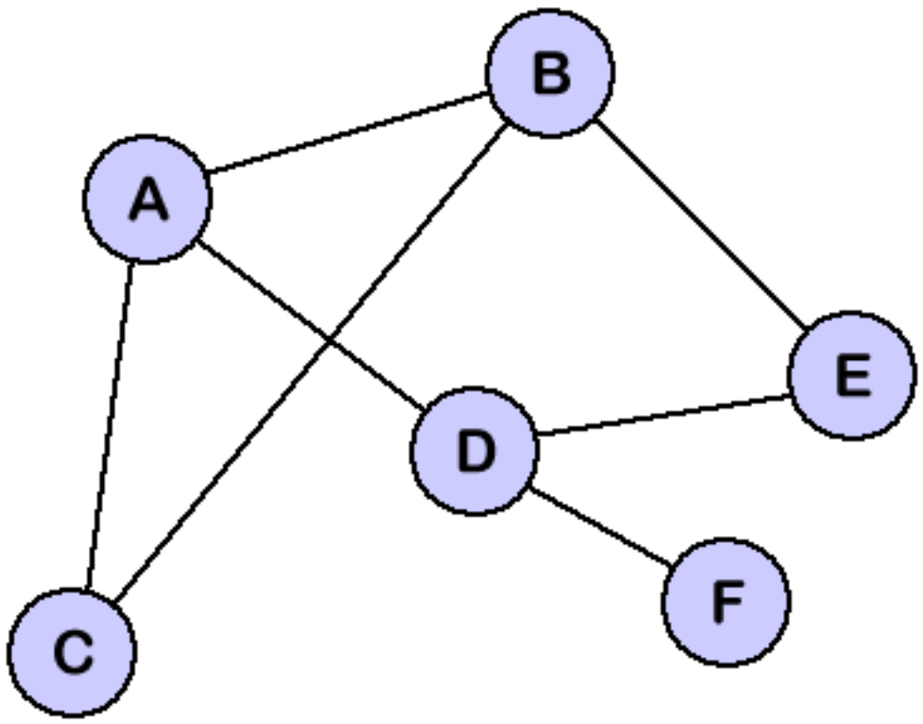
Graphs

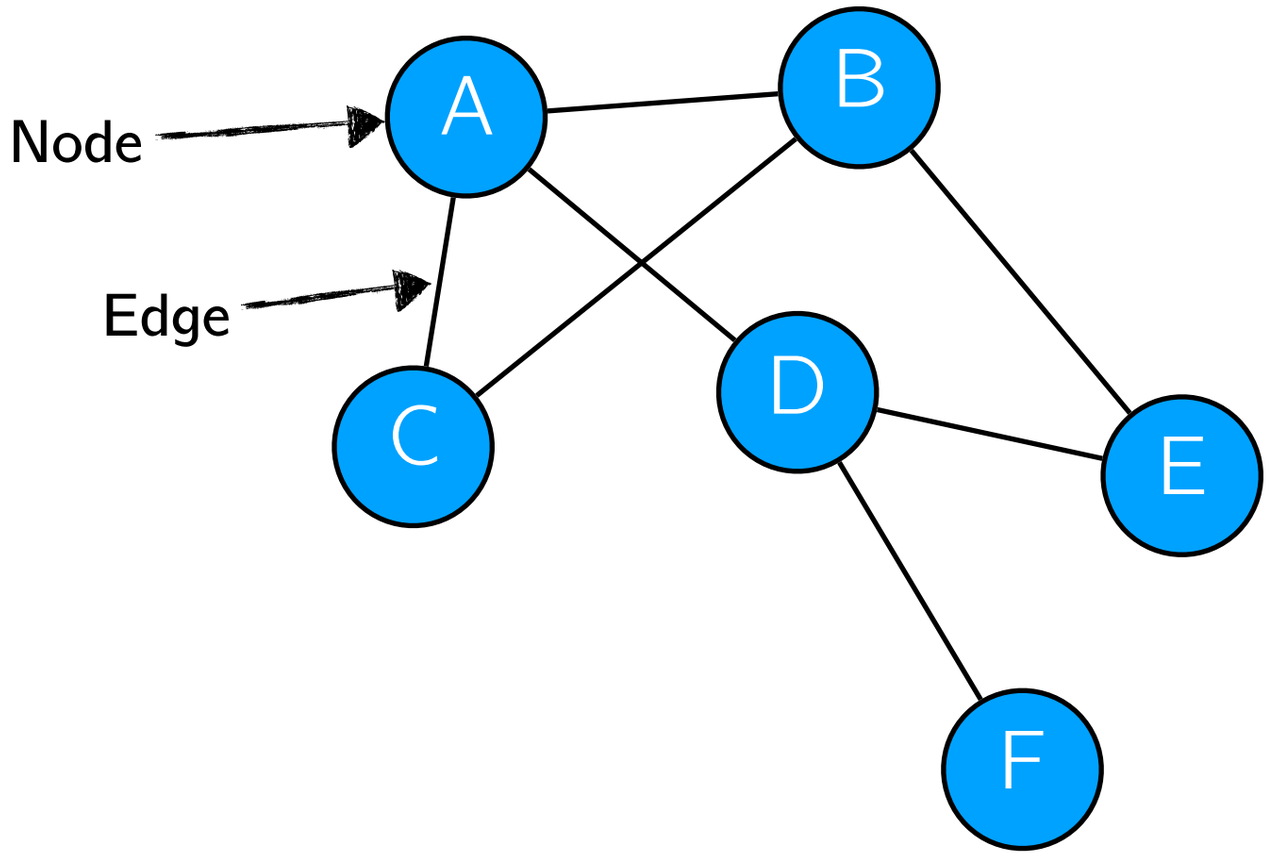


Graphs



Directed Acyclic Graph

- A **graph** is a collection of nodes and edges



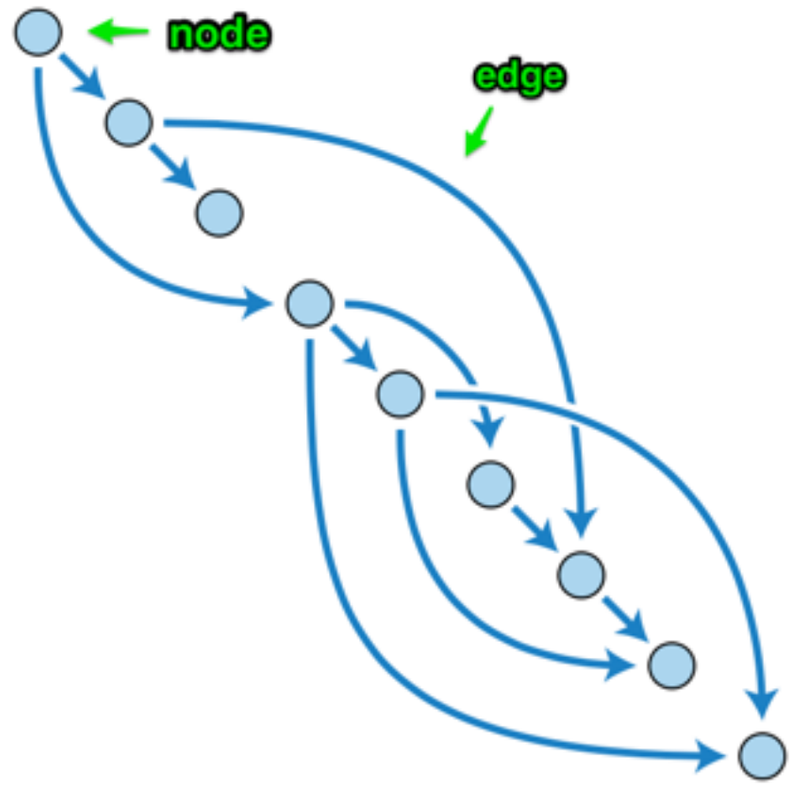
Directed Acyclic Graph

- A **graph** is a collection of nodes and edges

- A **directed graph** is a graph where each edge is directional.

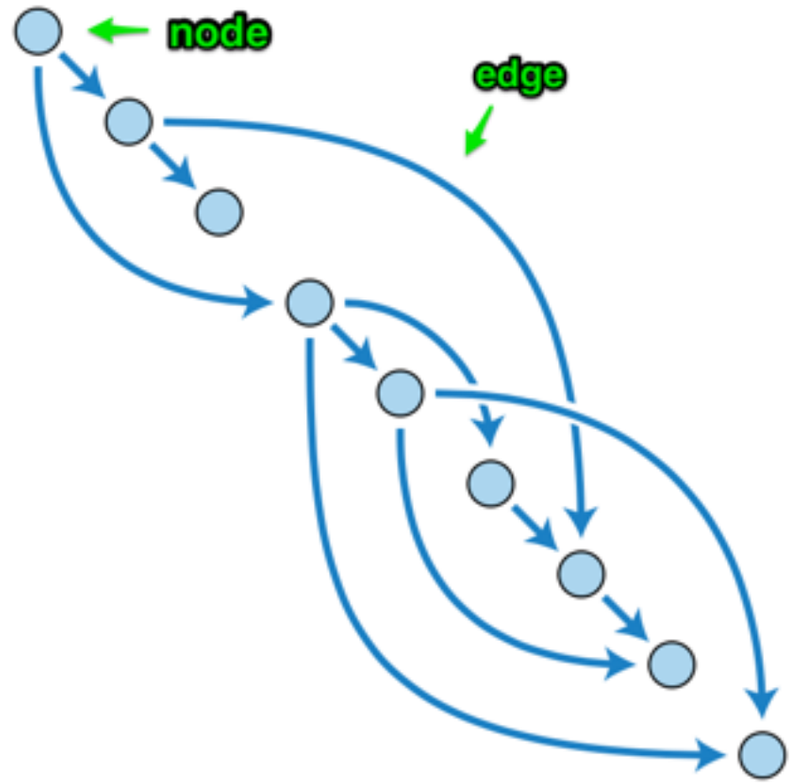
- A **directed acyclic graph** (DAG) is a directed graph with no cycles.

  - Once we have passed through a node, we never return to it.



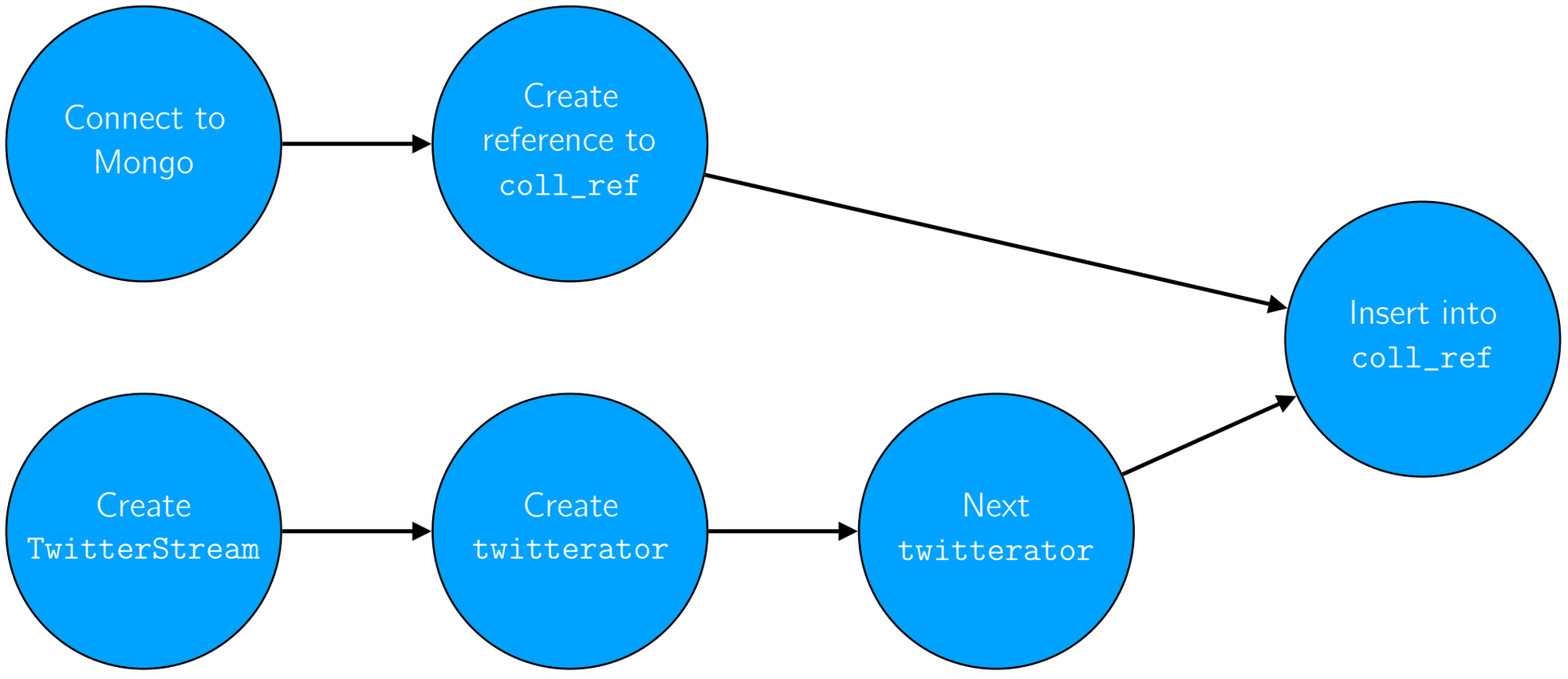
Directed Acyclic Graph

- The DAG is a great way to model a programmed process.



Directed Acyclic Graph

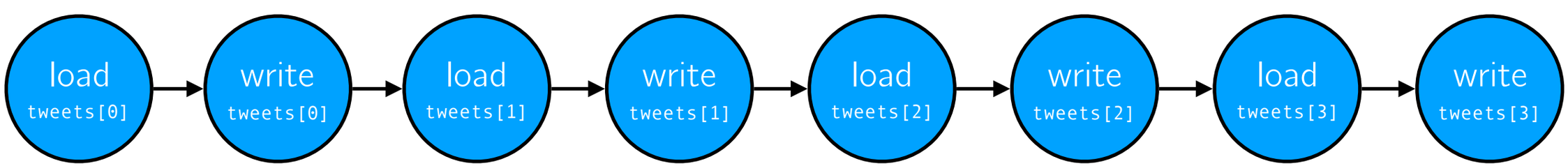
- The DAG for our Tweet Streamer is



Serial Processing

- Imagine a process by which we write a list of collected tweets (of length 4) to a MongoDB

```
for tweet in tweets:
    write_tweet_to_mongo(tweet)
```



Parallel Processing

- Imagine a process by which we write a list of collected tweets (of length 4) to a MongoDB

```
parfor tweet in tweets:
    write_tweet_to_mongo(tweet)
```

- With a parallel process, it is not necessary to wait for a process to complete to launch the next process