



CS10 : The Beauty and Joy of Computing

Lecture #19 Higher Order Functions II

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BUSTING THE KING'S GAMBIT

The popular opening 1. e4 e5 2. f4 exf4 refutes the “formerly popular opening”. He “strongly solved” it using ~3,000 cores powered by the IBM Watson team, and finds out that there’s only ONE move that draws for white 3. Be2; every other move “loses by force”. (they consider a game in which a person is down by 5.12 points to be a loss)

(Image Credit: chessbase.com)

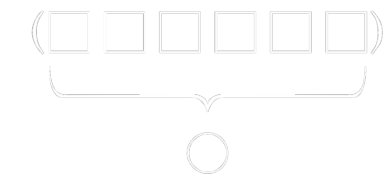
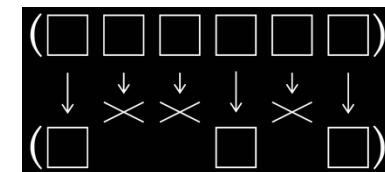
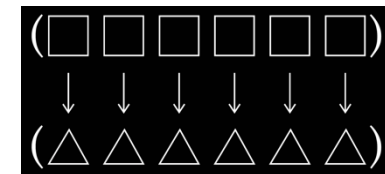


<http://www.chessbase.com/newsdetail.asp?newsid=8047>

Today

▪ Review useful HOFs

- **map** Reporter **over** List
 - Report a new list, every element E of `List` becoming `Reporter(E)`
- **keep items such that** Predicate **from** List
 - Report a new list, keeping only elements E of `List` if `Predicate(E)`
- **combine with** Reporter **over** List
 - Combine all the elements of `List` with `Reporter(E)`
 - This is also known as “reduce”



- **Acronym example**
 - `keep` → `map` → `combine`
- **The script, run and launch**
- **For each**
- **Compose example**

