

# Election Winners

*Input*

Elections are going to be held in India next year. You are given opinion poll results, can you predict which party will form the government and who will be the next PM?

The opinion poll results contain candidate name, their party, the constituency they are contesting from and the number of votes they got.

## Functionality to be supported

### 1. Find the PM

- A party wins a constituency if it's the single largest party by votes in that constituency. (For the seats where there is a tie, no party wins that seat.)
  - For a party, a candidate who won his constituency and got the highest vote percentage amongst all candidates of that party is the PM candidate from that party. → *Strategy*
  - The party that wins the most number of constituencies wins the elections. The PM candidate from this party becomes the PM.
    - In case of tie, the PM candidate which has the most number of vote percentage across India wins. → *Acknowledge Tie*
- Given a constituency as input, display the party wise vote share.
  - Display party wise vote share for the entire country.
  - Given a candidate as input, show his vote share in his constituency.
  - Display Top 5 candidates in terms of vote share →
  - Display Top 3 parties in terms of vote share. →

## Sample User Data

### Seed Input Data

(Take this as command line input/ file input/ hardcoded in main function/ through test cases.)

Name of candidate	Party	Constituency	Votes
Amit	BJP	C1	550
Rahul	Congress	C1	450
Sonia	Congress	C2	400

### Sample Output (only for some scenarios)

(Scenario 1)

PM - Amit

(Scenario 2)

Input Constituency

C1

BJP: 55%

Congress: 45%

(Scenario 3)

Party wise vote share for entire country

BJP: 39.28%

Congress: 60.71%

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## Expectations

- Code should be demoable. Either by using a main driver program on command line or via test cases.
- Code should cover all the edge cases possible and work for them. If it is not possible to handle some case, it should fail gracefully.
- Code should be readable and modular. It should be easy to add/remove functionality without rewriting entire codebase.

## Guidelines

- Time Duration: 90 mins
- Use of database is not allowed, store all data in memory.
- Please discuss any doubts you have with an interviewer.
- You are free to use the language of your choice.
- All work should be your own.
- Please save the file by "your name" and mail it to "shared form link on mail"
- Please send wifi request to "sanjeev.dn@flipkart.com" for internet connection

*PS: Do not spend a lot of time on parsing the input from a specific source or in a specific format. The input can be taken as command line input/ file input/hardcoded in main function/ through test cases.*