1. Describe qualitatively, so not numerically, the five (5) different issues that you have chosen.

- The five issues that have been chosen to represent the stances of the electorates, parties, candidates, and the leader are climate change, crime, exports, jobs and defence. All five of these are objects of the stance class. The stance class has two int members significance and approach. A random value from 1 to10 is assigned to both of them when an object of stance is created. All five of the issues (stance objects) are members of the issues class. Both the stance and issues class have getVal methold which give the combined significance and approach (significance + approach) of the stance objects.

2. Describe the three (3) political parties and specify the range of stances on each of the issues.

- The three political parties that have been defined are Labour, Liberal and Greens. Each political party is an object of the nationalParty class. The nationalParty class has members nationalCampaignManager and nationalFinanceManager, which are random integer values from 1 to 10. It has member initial which is the initial funding a party has when it starts campaigning, it is a random value between 1000 to 10000. The nationalParty class has a leader which is an object of the member class. The member class has two randomly generated int value members popularity and experience and a member position which is an object of the issue class. The nationalParty has also has a position, which is an object of the class issue. Due to time constraints all the parties have been given a single range from 1 to 10 for each of the issues. NationalParty also has members funding and spending which keeps track of the money earned and lost by each of the parties every campaign day. Finally the national party has an array of objects of the electoralParty class, the size of which is the number of electorates. The electoralParty class has an electoralCampaignManager, which are random integer values from 1 to 10 and a Candidate which is an object of the member class.

3. Describe the characteristics of your electorates, and how the stance distribution for the electorates is modelled.

- The nation defined as Australia is an object of the class Nation. Australia has members name, Noofelectorates and sum. Sum is the total number of voters in the nation. The nation also has an array of objects of the Electorate class, with the size of it being the number of electorates. Each electorate has a position, which is an object of the issue class and Noof voters which is a random integer generated between 1000 and 10000. The electoral class also has a method classed getVal which provides the combined significance and approach (significance + approach) of the stance objects of the position. Due to time constraints all the parties have been given a single range from 1 to 10 for each of the issues.

4. The winner for an electorate is the candidate for that electorate who obtains the most votes. You need to describe how the number of votes for each candidate is obtained. There should be randomness in this process. While the process doesn't need to be particularly complicated, there should be dependence on the relative stances of electorates and candidates, and on candidate popularity.

-The election process takes place in the function defined as Election, this function takes as parameters the three political parties and the nation of Australia. For each of the electoral parties the function looks at the candidates popularity and subtracts from it the difference in

combined stance values of the electorate and the candidate i.e. |(electorate.getVal – candidate.getVal)|. This provides three values x,y,z for labour, liberal and greens respectively. Global integer values LabourEventImpact, LiberalEventImpact, GreensEventImpact are added to x,y,z respectively and these represent the impact of event that have taken place. LabourEventImpact, LiberalEventImpact, GreensEventImpact are incremented in functions NationalEventImpact and ElectoralEventImpact.

 The ratio of these values multiplied by the number of voters in the electorate provide the number of votes that each candidate gets. The randomness of the process is signified by the randomness of all the values that generated to get the result.

5. Describe the characteristics of the candidates and the qualitative impact they have.

- Each candidate is an object of the class member described earlier. The candidates popularity and candidates position is used to calculate the number of votes he/she gets as described earlier. Furthermore, the candidates experience coupled with the value associated with the electoral campaign manager of the electoral party is used to determine the outcome of the electoral event in the function ElectoralEventImpact.

6. Describe the characteristics of the other people associated with the political parties and the qualitative impact they have.

- The national leader which is an object of the class member is used to determine the outcome of the national events Leaders Debate, Leaders Event 1 and Leaders Event 2, this takes place in the function NationalEventImpact.. The value associated with the national campaign manager is used to determine the outcome of national events National Issue Impact 1 and National Issue Impact 2. this takes place in the function NationalEventImpact.

Furthermore, the values associated with the national finance manager and national campaign manager are used to determine the money spent and money earned by the national campaign, this takes place in the function Campaign.

 7. Describe what local and national events you have chosen, and how the event mechanisms qualitatively depend on the characteristics of the components described above.

- The national event that were chosen are Leaders Debate","Leader Event 1","Leader Event 2","National Issue Impact Event 1","National Issue Impact Event 2. The probability of any national event occurring is 30%. If an event does occur the probability the event occurring will be from the list above are 10%,15%,15%,30%,30% respectively. These values are feed into random function to generate a vector of which event occurs on which campaign day

The mechanism of the NationalEventImpact has been described above.

 The electorate events that were chosen are Local Deabte","Candidate Event 1","Candidate Event 2","Local Issue Impact Event 1","Local Issue Impact Event 2"". The probability of any national event occurring is 20%. If an event does occur the probability the event occurring will be from the list above are 10%,15%,15%,30%,30% respectively. These values are feed into random function to generate a vector of which event occurs on which campaign day

The mechanism of the ElectoralEventImpact has been described above.

An array of electoral events are created for every electorate.

Event
+ value:vector<int>
+ setVal(vector<int>)

National Event
- event:vector<int>
- probability1:vector<int>
- likelyhood:vector<int>
- probability2:vector<int>
+ val:vector<int>
+ NationalEvent()

ElectoralEvent
- event:vector<int>
- probability1:vector<int>
- likelyhood:vector<int>
- probability2:vector<int>
+ val:vector<int>
+ ElectoralEvent()

Campaign
External Function than prints the finances for ever campaign day for every party.

It also shows which event took place and on which day.

Election
External function that prints the election results

Nation
+areas:Electorates[10]
+Name:string
+sum:int
+NOofelectorates:int
+Nation(int,string)
+report()

Report
External Function that prints the status of the party and the state of the nation

nationalParty
+Leader: member
+nationalCampaignManager: int
+nationalFinanceManager: int
+NoOfElectorates: int
+position: issue
+Name: string
+initial: int
+funding: int[30]
+spending: int[30]
+parties: electoralParty[10]
+nationalParty(int,string)
+report()

electoralParty
+electoralCampaignManager: int
+Candidate:member
+electoralParty()
+report()

member
+popularity: int
+experience: int
+position: issue
+member()
+report()
+getValue()

Electorate
+vOfExp:int
+position:issue
+NoofVoters
+setPartyPreference()

issue
- climateChange: stance
- Jobs: stance
- Defence: stance
- Exports: stance
- Crime: stance
- stances: string[5]
- position: stance[5]
+report()
+getValue()

stance
- significance: int
- approach: int
+report()
+getValue()