

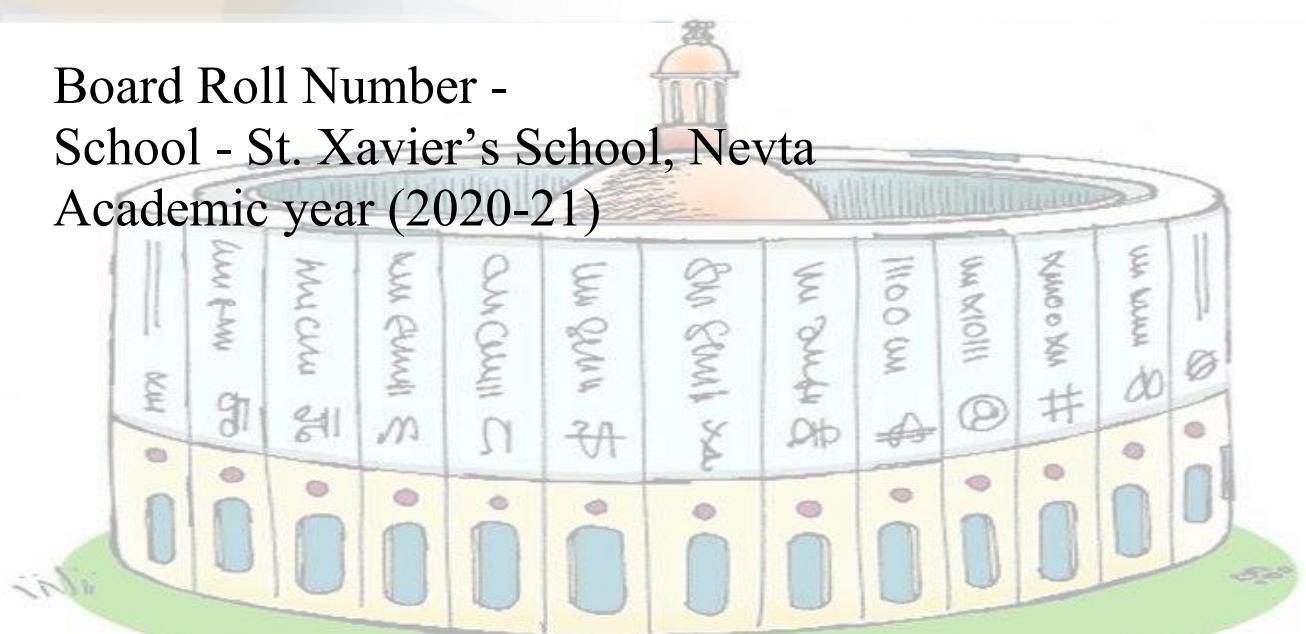
# "Electoral System Of India"

A project in subject of

**Informatics Practices (code 065)**



Board Roll Number -  
School - St. Xavier's School, Nevta  
Academic year (2020-21)



# Acknowledgement

In the accomplishment of this project successfully, many people have best owned upon me their blessings and the heart pledged support, this time I am utilizing to thank all the people who have been concerned with this project.

Primarily I would thank God for being able to complete this project with success. Then I would like to thank my Principal ***Rev. Fr. Sangeeth Raj S.J.***, Vice Principal ***Rev. Fr. Jebamalai, S.J.*** and Academic Coordinator ***Mr. Abin Varghese.***

I would also like to thank Informatics Practices teacher ***Mr. Pankaj Chadha,*** whose valuable guidance has been the ones that helped me patch this project and make it full proof success. His suggestions and his instructions have served as the major contributor towards the completion of the project.

I would like to thank my parents and friends who have helped me with their valuable suggestions and guidance has been very helpful in various phases of the completion of the project.

Last but not the least I would like to thank my classmates who have helped me a lot.

**Tanmay Singhal**

**(Class: XII - A)**

**St. Xavier's School, Nevta**

# Laboratory Certificate

*This is to certify that Tanmay Singhal of Class XII - A has successfully completed his/her project work on "ELECTORAL SYSTEM OF INDIA" in Informatics Practices (Code 065) and hereby submitting his/her report as an evidence of the project work for the session 2021 - 2022.*

Fr. Sangeeth Raj SJ

Principal

St. Xavier's School, Nevta

Pankaj Chadha

PGT IP

St. Xavier's School, Nevta

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# Project Description

This project titles “**Electoral System Of India**” was chosen with the intent to learn behind the scenes of the one of the biggest democracy’s festival that is elections and what preparations go to reach election day. This project aims to touch all the major components of **ECI (Election Commission of India)** like registering eligible candidates, voters, conducting elections with an added perk of analysis of performance of various parties, participation of people etc.

All the data whether generated during running of the program or collected previously are stored in spreadsheets in .CSV format which have been discussed in detail in later parts of this report. There are in total four python files in this project, namely, **election.py, graphs.py, registrations.py and IP class XII Practical.py** which have their own separate functions like IP class XII Practical.py file is used to run the portal and is used by the user while all the other files are back end files and has all the necessary functions to run the main file. election.py has all the functions for conduction of election at the portal and counting the votes, graphs.py has all the functions for analysis of various things as discussed above, while registrations.py has all the functions for registrations of eligible candidates and voters.

Moreover we have 3 CSV files, namely, **history.csv**, **representatives.csv**, **voters.csv** for storing of all the data related to the project. Among them the history.csv stores all the data related to elections conducted in past with various columns used during in depth analysis, representatives.csv stores all the data of the candidates contesting in the election along with their party names, while voters.csv stores the data of the registered voters along with their uniquely generated voter ID during their registration.

There is a text file as well named **README.txt** with all the instructions needed on how to run the program correctly for the user with clear instructions to run IP class XII Project.py only and do not corrupt any back end files as this will result in the failure of efficient working of the project.

Program is extremely user friendly and totally bug free with very less chances of throwing an error although that also has been taken care of as we will see in the source code. By the means of this project I learned a lot of new things about our ECI and its working which often left unseen.

# Data Source

**1. Source of Data :** All the data was collected from trusted websites like -

- A. <https://loksabha.nic.in/>
- B. <https://www.kaggle.com/>
- C. <https://eci.gov.in/>
- D. <https://data.gov.in/>

**2. Structure of CSV files :** Structure of various CSV files is listed below -

A. history.csv

Columns :

Year, votes, Bhartiya Janta Party, Bahujan Samaj Party, Communist Party of India, Communist Party of India (Marxist), Indian National Congress, Nationalist Congress Party, Independent, Others, Participation

B. representatives.csv

Columns :

Name of Member, Constituency & State, Party Name

C. voters.csv

Columns :

Voter name, Constituency & State, Voter ID

### 3. Data in CSV's : Following data is there within the given CSV's :

#### A. history.csv (19 records)

	A	B	C	D	E	F	G	H	I	J	K
1	Year	votes	Bhartiya Janata Party	Bahujan Samaj Party	Communist Party of India	Communist Party of India (Marxist)	Indian National Congress	Nationalist Congress Party	Independent	Others	Participation
2	1951	90	0	0	16	0	50	0	15	9	87.38
3	1957	91	0	0	20	0	56	0	8	7	88.35
4	1962	94	0	0	19	0	69	0	6	0	91.26
5	1967	92	0	0	15	12	58	0	4	3	89.32
6	1971	86	0	0	17	12	53	0	4	0	83.5
7	1977	88	0	0	7	22	49	0	8	2	85.44
8	1980	90	0	0	10	17	60	0	2	1	87.38
9	1984	88	2	0	6	5	70	0	1	4	85.44
10	1985	50	0	0	0	0	27	0	8	15	48.54
11	1989	90	33	0	5	7	43	0	1	1	87.38
12	1991	92	40	0	4	6	41	0	1	0	89.32
13	1992	13	0	0	0	0	12	0	0	1	12.62
14	1996	95	41	0	5	5	32	0	9	3	92.23
15	1998	99	44	5	9	16	20	0	4	1	96.12
16	1999	100	48	2	2	4	39	0	3	2	97.09
17	2004	98	41	4	5	7	33	2	4	2	95.15
18	2009	95	48	6	2	6	30	1	1	1	92.23
19	2014	92	61	0	1	2	21	3	2	2	89.32

#### B. representatives.csv (102 records)

	A	B	C
1	Name of Member	Constituency & State	Party Name
2	A. Raja, Shri	Nilgiris (SC)(Tamil Nadu)	All India United Democratic Front
3	Abbaiah, Shri Narayana Swar	Chitradurga (SC)(Karnataka)	All India United Democratic Front
4	Abdullah, Dr. Farooq	Srinagar (Jammu and Kashmir)	All India Trinamool Congress
5	Adhikari, Shri Deepak (Dev)	Ghatal (West Bengal)	Bhartiya Janta Party
6	Adhikari, Shri Dibyendu	Tamluk (West Bengal)	Independent
7	Adhikari, Shri Sisir Kumar	Kanthi (West Bengal)	Bhartiya Janta Party
8	Adv. A. M. Ariff	Alappuzha (Kerala)	Shiromani Akali Dal
9	Agrawal, Shri Rajendra	Meerut (Uttar Pradesh)	Communist Party of India
10	Ahluwalia, Shri S.S.	Bardhaman-Durgapur (West Bengal)	Indian National Congress
11	Ahmed, Smt. Sajda	Uluberia (West Bengal)	Nationalist Congress Party
12	Ajgalley, Shri Guharam	Janjgir-Champa (SC)(Chhattisgarh)	Communist Party of India (Marxist)
13	Ajmal, Maulana Badruddin	Dhubri (Assam)	All India United Democratic Front
14	Ambareesh, Smt. Sumalatha	Mandy (Karnataka)	Communist Party of India (Marxist)
15	Angadi, Smt. Mangal Suresh	Belgaum (Karnataka)	Shiromani Akali Dal
16	Annadurai, Shri C.N.	Pali (Rajasthan)	Communist Party of India
17	Annpurna Devi, Smt.	Jalandhar (SC)(Punjab)	All India Trinamool Congress
18	Ansari, Shri Afzal	Raiganj (West Bengal)	Bahujan Samaj Party
19	Antony, Shri Anto	Kheda (Gujarat)	Bhartiya Janta Party
20	Aujla, Shri Gurjeet Singh	Ganganagar (SC)(Rajasthan)	All India Trinamool Congress
21	Azad, Smt. Sangeeta	Nilgiris (SC)(Tamil Nadu)	Bhartiya Janta Party
22	B.N. , Shri Bache Gowda	Chitradurga (SC)(Karnataka)	Communist Party of India
23	Baalu, Shri Thalikkottai Rajut	Srinagar (Jammu and Kashmir)	All India Trinamool Congress
24	Badal, Smt. Harsimrat Kaur	Ghatal (West Bengal)	All India United Democratic Front

A	B	C
25 Badal, Shri Sukhbir Singh	Tamluk (West Bengal)	Nationalist Congress Party
26 Baghel, Prof. S.P. Singh	Kanthy (West Bengal)	All India United Democratic Front
27 Baghel, Shri Vijay	Alappuzha (Kerala)	Communist Party of India (Marxist)
28 Baheria, Shri Subhash Chand	Meerut (Uttar Pradesh)	All India Trinamool Congress
29 Baij, Shri Deepak	Bardhaman-Durgapur (West Bengal)	All India United Democratic Front
30 Balyan, Dr. Sanjeev Kumar	Uluberia (West Bengal)	Indian National Congress
31 Bandi, Shri Sanjay Kumar	Janjgir-Champa (SC)(Chhattisgarh)	Indian National Congress
32 Bandyopadhyay, Shri Sudip	Dhubri (Assam)	All India United Democratic Front
33 Banerjee, Shri Abhishek	Mandya (Karnataka)	All India Trinamool Congress
34 Banerjee, Shri Kalyan	Belgaum (Karnataka)	Indian National Congress
35 Banerjee, Shri Prasun	Pali (Rajasthan)	Indian National Congress
36 Bapat, Shri Girish Bhalchandra	Jalandhar (SC)(Punjab)	Indian National Congress
37 Barla, Shri John	Raiganj (West Bengal)	All India United Democratic Front
38 Barne, Shri Shrirang Appa	Kheda (Gujarat)	Bahujan Samaj Party
39 Barq, Shri Shafiqur Rahman	Ganganagar (SC)(Rajasthan)	All India Trinamool Congress
40 Baruah, Shri Pradan	Nilgiris (SC)(Tamil Nadu)	Bahujan Samaj Party
41 Basavaraj, Shri Gangasandra	Chitradurga (SC)(Karnataka)	All India Trinamool Congress
42 Basheer, Shri E. T. Mohammad	Srinagar (Jammu and Kashmir)	Independent
43 Beesetti , Dr. Venkata Satyav	Ghatal (West Bengal)	All India Trinamool Congress
44 Bellana, Shri Chandra Sekhar	Tamluk (West Bengal)	Communist Party of India (Marxist)
45 Beniwal, Shri Hanuman	Kanthy (West Bengal)	Shiromani Akali Dal
46 Benny, Shri Behanan	Alappuzha (Kerala)	Independent
47 Bey, Shri Horen Sing	Meerut (Uttar Pradesh)	Communist Party of India (Marxist)
48 Bhabhor, Shri Jaswantsinh Su	Bardhaman-Durgapur (West Bengal)	All India United Democratic Front

A	B	C
49 Bhagat, Shri Sudarshan	Uluberia (West Bengal)	Communist Party of India (Marxist)
50 Bhagirath Choudhary, Shri	Janjgir-Champa (SC)(Chhattisgarh)	All India Trinamool Congress
51 Bhamre, Dr. Subhash Ramrao	Dhubri (Assam)	Bahujan Samaj Party
52 Bhargava, Shri Ramakant	Mandya (Karnataka)	All India United Democratic Front
53 Bhatia, Shri Sanjay	Belgaum (Karnataka)	Independent
54 Bhatt, Shri Ajay	Pali (Rajasthan)	Bhartiya Janta Party
55 Bhatt, Smt. Ranjanben Dhan	Jalandhar (SC)(Punjab)	Communist Party of India
56 Bhavana Gawali (Patil), Ms.	Raiganj (West Bengal)	Nationalist Congress Party
57 Bholanath (B.P. Saroj), Shri	Kheda (Gujarat)	Bhartiya Janta Party
58 Bhoumik, Km. Pratima	Ganganagar (SC)(Rajasthan)	Communist Party of India
59 Bidhuri, Shri Ramesh	Nilgiris (SC)(Tamil Nadu)	Nationalist Congress Party
60 Bind, Dr. Ramesh Chand	Chitradurga (SC)(Karnataka)	Communist Party of India
61 Birla, Shri Om	Srinagar (Jammu and Kashmir)	Bahujan Samaj Party
62 Bisen, Dr. Dhal Singh	Ghatal (West Bengal)	Bahujan Samaj Party
63 Bisoyi, Smt. Pramila	Tamluk (West Bengal)	Communist Party of India
64 Bista, Shri Raju	Kanthy (West Bengal)	All India Trinamool Congress
65 Bohra, Shri Ramcharan	Alappuzha (Kerala)	All India United Democratic Front
66 Bordoloi, Shri Pradyut	Meerut (Uttar Pradesh)	Communist Party of India
67 Borlakunta, Shri Venkatesh N	Bardhaman-Durgapur (West Bengal)	Indian National Congress
68 Chahar, Shri Rajkumar	Uluberia (West Bengal)	Bahujan Samaj Party
69 Chakraborty, Ms. Mimi	Janjgir-Champa (SC)(Chhattisgarh)	Shiromani Akali Dal
70 Chandel, Kunwar Pushpendra	Dhubri (Assam)	Communist Party of India (Marxist)
71 Chandra, Shri Girish	Mandya (Karnataka)	Bhartiya Janta Party
72 Chatterjee, Smt. Locket	Belgaum (Karnataka)	Independent

A	B	C
73 Chaudhary, Shri P.P.	Pali (Rajasthan)	Nationalist Congress Party
74 Chaudhary, Shri Pankaj	Jalandhar (SC)(Punjab)	Nationalist Congress Party
75 Chaudhary, Shri Pradeep Kur	Raiganj (West Bengal)	Nationalist Congress Party
76 Chaudhary, Shri Santokh Singh	Kheda (Gujarat)	Communist Party of India (Marxist)
77 Chaudhuri, Km. Debasree	Ganganagar (SC)(Rajasthan)	Bhartiya Janta Party
78 Chauhan, Shri Devusinh Jesir	Nilgiris (SC)(Tamil Nadu)	Communist Party of India (Marxist)
79 Chauhan, Shri Nihal Chand	Chitradurga (SC)(Karnataka)	All India Trinamool Congress
80 Chavda, Shri Vinod	Srinagar (Jammu and Kashmir)	Independent
81 Chazhikadan, Shri Thomas	Ghatal (West Bengal)	All India Trinamool Congress
82 Chellakumar, Dr. A.	Tamluk (West Bengal)	Indian National Congress
83 Chidambaram, Shri Karti P.	Kanthi (West Bengal)	Shiromani Akali Dal
84 Chikhalkar, Shri Prataprao P.	Alappuzha (Kerala)	Shiromani Akali Dal
85 Chinraj, Shri A.K.P.	Meerut (Uttar Pradesh)	Shiromani Akali Dal
86 Chinta Anuradha, Smt.	Bardhaman-Durgapur (West Bengal)	Indian National Congress
87 Choubey, Shri Ashwini Kumar	Uluberia (West Bengal)	Independent
88 Choudhary, Shri Chandra Prajanjgir-Champa (SC)	(SC)(Chhattisgarh)	Bahujan Samaj Party
89 Choudhary, Shri Kailash	Dhubri (Assam)	Bhartiya Janta Party
90 Choudhury, Shri Abu Hasem	Mandya (Karnataka)	Independent
91 Chowdhury, Shri Adhir Ranjan	Belgaum (Karnataka)	All India Trinamool Congress
92 Chudasama, Shri Rajeshbhai	Pali (Rajasthan)	All India United Democratic Front
93 Dabhi, Shri Bharatsinhji Shan	Jalandhar (SC)(Punjab)	Indian National Congress
94 Damor, Shri Guman Singh	Raiganj (West Bengal)	Bhartiya Janta Party
95 Danve, Shri Raosaheb Dadar	Kheda (Gujarat)	All India Trinamool Congress
96 Darbar, Shri Chhatar Singh	Ganganagar (SC)(Rajasthan)	Communist Party of India

A	B	C
97 Das, Shri Pallab Lochan	Nilgiris (SC)(Tamil Nadu)	Independent
98 Dastidar, Dr. (Smt.) Kakoli Ghosh	Chitradurga (SC)(Karnataka)	Communist Party of India (Marxist)
99 Deb, Shri Nitesh Ganga	Srinagar (Jammu and Kashmir)	Shiromani Akali Dal
100 Delkar, Smt. Kalaben Mohanlal	Ghatal (West Bengal)	All India Trinamool Congress
101 Deol, Shri Sunny	Tamluk (West Bengal)	Bahujan Samaj Party
102 Devi, Smt. Rama	Kanthi (West Bengal)	Nationalist Congress Party

C. voters.csv (105 records)

A	B	C
1 Voter name	Constituency & State	Voter ID
2 barjraj	Nilgiris (SC)(Tamil Nadu)	NI001
3 ramdin verma	Chitradurga (SC)(Karnataka)	CH002
4 sharat chandran	Srinagar (Jammu and Kashmir)	SR003
5 birender mandal	Ghatal (West Bengal)	GH004
6 amit	Tamluk (West Bengal)	TA005
7 kushal	Kanthy (West Bengal)	KA006
8 kasid	Alappuzha (Kerala)	AL007
9 shiv prakash	Meerut (Uttar Pradesh)	ME008
10 vikram singh	Bardhaman-Durgapur (West Bengal)	BA009
11 sanjay	Uluberia (West Bengal)	UL010
12 abhi	Janjgir-Champa (SC)(Chhattisgarh)	JA011
13 ram dutt gupta	Dhubri (Assam)	DH012
14 khadak singh	Mandya (Karnataka)	MA013
15 gurmit singh	Belgaum (Karnataka)	BE014
16 chanderpal	Pali (Rajasthan)	TI015
17 aman	Jalandhar (SC)(Punjab)	KO016
18 khursid	Raiganj (West Bengal)	GH017
19 rajeev	Kheda (Gujarat)	PA018
20 durgesh	Ganganagar (SC)(Rajasthan)	AM019
21 nahar singh	Nilgiris (SC)(Tamil Nadu)	LA020
22 ram kumar	Chitradurga (SC)(Karnataka)	CH021
23 sunder paal	Srinagar (Jammu and Kashmir)	SR022
24 maansingh aswal	Ghatal (West Bengal)	BA023

A	B	C
25 rohit	Tamluk (West Bengal)	FE024
26 rohit	Kanthy (West Bengal)	AG025
27 sparsh	Alappuzha (Kerala)	DU026
28 santosh	Meerut (Uttar Pradesh)	BH027
29 santosh	Bardhaman-Durgapur (West Bengal)	BA028
30 punit khandelwal	Uluberia (West Bengal)	MU029
31 dinesh	Janjgir-Champa (SC)(Chhattisgarh)	KA030
32 gulshan	Dhubri (Assam)	KO031
33 arvind kumar yadav	Mandya (Karnataka)	DI032
34 nausad	Belgaum (Karnataka)	SE033
35 gurmit singh	Pali (Rajasthan)	HO034
36 md. afsar	Jalandhar (SC)(Punjab)	PU035
37 shiv shakti singh	Raiganj (West Bengal)	AL036
38 moti lal	Kheda (Gujarat)	MA037
39 kausal kumar	Ganganagar (SC)(Rajasthan)	SA038
40 rohit	Nilgiris (SC)(Tamil Nadu)	LA039
41 rohit	Chitradurga (SC)(Karnataka)	TU040
42 mohabbat ali	Srinagar (Jammu and Kashmir)	PO041
43 raj kumar	Ghatal (West Bengal)	AN042
44 jaswant singh	Tamluk (West Bengal)	VI043
45 sevak @ pitambar lal	Kanthy (West Bengal)	NA044
46 chotelal	Alappuzha (Kerala)	CH045
47 amit	Meerut (Uttar Pradesh)	AU046
48 rupesh	Bardhaman-Durgapur (West Bengal)	DA047

	A	B	C
49	midda	Uluberia (West Bengal)	LO048
50	dharma singh	Janjgir-Champa (SC)(Chhattisgarh)	AJ049
51	manoj yadav @ manoj	Dhubri (Assam)	DH050
52	ram singh	Mandya (Karnataka)	VI051
53	preetam kumar	Belgaum (Karnataka)	KA052
54	ram kumar	Pali (Rajasthan)	NA053
55	sarain	Jalandhar (SC)(Punjab)	VA054
56	pankaj kumar	Raiganj (West Bengal)	YA055
57	sheak shakir	Kheda (Gujarat)	MA056
58	riyasat ali	Ganganagar (SC)(Rajasthan)	TR057
59	vinit katariya	Nilgiris (SC)(Tamil Nadu)	SO058
60	sumit	Chitradurga (SC)(Karnataka)	BH059
61	arindra	Srinagar (Jammu and Kashmir)	KO060
62	kali charan	Ghatal (West Bengal)	BA061
63	badshya khan	Tamluk (West Bengal)	AS062
64	vikash	Kanthi (West Bengal)	DA063
65	devinder chadda	Alappuzha (Kerala)	JA064
66	aman	Meerut (Uttar Pradesh)	NA065
67	mohan singh	Bardhaman-Durgapur (West Bengal)	PE066
68	hemant	Uluberia (West Bengal)	FA067
69	shivam	Janjgir-Champa (SC)(Chhattisgarh)	JA068
70	yash mittal	Dhubri (Assam)	HA069
71	aakash	Mandya (Karnataka)	NA070
72	chandesh	Belgaum (Karnataka)	HO071

	A	B	C
73	sumit mitra	Pali (Rajasthan)	PA072
74	supriyal sen	Jalandhar (SC)(Punjab)	MA073
75	gajender singh @ goldy	Raiganj (West Bengal)	KA074
76	pooran chand sharma	Kheda (Gujarat)	JA075
77	irfan	Ganganagar (SC)(Rajasthan)	RA076
78	azaruddin	Nilgiris (SC)(Tamil Nadu)	KH077
79	mukul yadav	Chitradurga (SC)(Karnataka)	GA078
80	pooran chand sharma	Srinagar (Jammu and Kashmir)	KA079
81	manoj	Ghatal (West Bengal)	KO080
82	sanjay charee	Tamluk (West Bengal)	KR081
83	raja babu	Kanthi (West Bengal)	SI082
84	pawan	Alappuzha (Kerala)	NA083
85	sandeep	Meerut (Uttar Pradesh)	NA084
86	rajkumar chawla	Bardhaman-Durgapur (West Bengal)	AM085
87	parvesh	Uluberia (West Bengal)	BU086
88	mohd ataullah	Janjgir-Champa (SC)(Chhattisgarh)	GI087
89	neeraj kumar	Dhubri (Assam)	BA088
90	jamil khan	Mandya (Karnataka)	MA089
91	yogita	Belgaum (Karnataka)	BA090
92	rijul agarwal	Pali (Rajasthan)	JU091
93	mohd shakib	Jalandhar (SC)(Punjab)	PA092
94	rahul kumar	Raiganj (West Bengal)	RA093
95	rajender	Kheda (Gujarat)	JA094
96	suraj	Ganganagar (SC)(Rajasthan)	DH095

	A	B	C
97	rizwan	Nilgiris (SC)(Tamil Nadu)	TE096
98	sandeep	Chitradurga (SC)(Karnataka)	BA097
99	md mustafa	Srinagar (Jammu and Kashmir)	SA098
100	har parsad	Ghatal (West Bengal)	DA099
101	deepak	Tamluk (West Bengal)	GU100
102	rahul	Kanthi (West Bengal)	SH101
103	Tanmay	Jaipur (Rajasthan)	JA102
104	Pragnay	Jaipur (Rajasthan)	JA103
105	Monia	Jaipur (Rajasthan)	JA104

# Menu Layout

**Main Menu along with sub menus :**

**A. Register Voter**

- a. Enter your Name ...
- b. Enter your age ...
- c. Enter your constituency ...
- d. Enter your state ...
- e. Confirm Registration (Y/N)? ...

**B. Register Candidate**

- a. Enter your first name ...
- b. Enter your last name ...
- c. Enter your age ...
- d. Select your party number or choose independent if candidate is independent
  - 1) All India United Democratic Front
  - 2) All India Trinamool Congress
  - 3) Bhartiya Janta Party
  - 4) Shiromani Akali Dal
  - 5) Communist Party of India
  - 6) Indian National Congress
  - 7) Nationalist Congress Party
  - 8) Communist Party of India (Marxist)
  - 9) Bahujan Samaj Party
  - 10) Independent
- e. Enter your constituency ...

- f. Enter your state ...
- g. Confirm Registration (Y/N)? ...

### C. Conduct elections

- a. Enter current year for election conduction ...  
(if above entered year has less than 5 year gap from last conducted elections then following options are laid else elections are started)
- b. Over rule the gap (Y/N)? ...  
(if elections starts : )
- c. Please enter voter ID or type "end" to end the elections...
- d. Parties/Candidates contesting from your constituency i.e. <voter's constituency>  
<List of all parties candidates contesting from voters constituency>  
(if 'end' is written in voter ID)
- e. Display results (Y/N)? ...

### D. Analysis

- a. Select mode of analysis by its number
  - 1) Comparison between parties over the years  
(Required graph is displayed)
  - 2) Particular party performance
    - I) Select a party by its indicated number
      - 1) Bhartiya Janta Party
      - 2) Bahujan Samaj Party
      - 3) Communist Party of India
      - 4) Communist Party of India (Marxist)
      - 5) Indian National Congress
      - 6) Nationalist Congress Party

7) Independent

8) Others

(Analyzed result is displayed according to selected option then  
following menu is laid)

II) View detailed graph (Y/N)? ...

3) Participation of people in elections

(Analyzed result from previous year and a year later is displayed  
then following menu is laid)

I) View detailed graph of Participation (Y/N)? ...

#### **E. Results of last conducted elections**

(Required results are displayed)

#### **F. Exit**

(Closes the portal)

Select the function by its indicated number ...

# Python Source code with

## outputs

### Source codes

#### 1. elections.py :

```
import pandas as pd
import time
import os

def run_election():
    d_vote={}
    df_voter = pd.read_csv("voters.csv")
    df_representative = pd.read_csv("representatives.csv")

    '''code for the election conduction'''

    run=True
    done_cand=[]
    while run==True:
        v_id=input('Please enter voter ID or type "end" to end the elections... ')
        if v_id.upper() not in done_cand:
            if v_id=='end':
                #Here code for saving the poll result don't write in this go at the end
                run=False
                continue
            s1=df_voter.loc[df_voter['Voter ID']== v_id.upper()]
            if s1.empty:
                print("please enter correct voter id")
                continue
            cons=s1['Constituency & State']
            c=""
            for i in cons:
                c=c+i
            cons=c.strip()
            name=s1['Voter name']
            s2=df_representative.loc[df_representative['Constituency & State']==cons]
            party_df=s2[['Party Name','Name of Member']]
            party_df=party_df.reset_index()
            party2=[]
            party=[]
            party lower=[]
```

```

        for i in range(len(party_df)):
            if party_df['Party Name'][i] not in party and party_df['Party Name'][i]!='Independent':
                party2.append(party_df['Party Name'][i])
                party.append(party_df['Party Name'][i])
                party_lower.append(party_df['Party Name'][i].lower())
            elif party_df['Party Name'][i] not in party and party_df['Party Name'][i]=='Independent':
                party2.append(party_df['Name of Member'][i]+('Independent'))
                party.append(party_df['Party Name'][i])
                party_lower.append(party_df['Party Name'][i].lower())
            else:
                continue
        n=''
        for i in name:
            n+=str(i)
        print('')
        print('*'*25+'Welcome '+str(n).capitalize()+'*'*25)
        print('')
        print("Parties/Candidates contesting from you constituency i.e. "+cons)
        print('')

        for i in range(0,len(party2)):
            print(str(i+1)+" "+party2[i])
        print('*'*len('*'*25+'Welcome '+str(n).capitalize()+'*'*25))
        print('')
        print("Choose one of them by number or their name")
        print('')
        done=False

        while done==False:
            r=input()
            print('')
            try:
                r=int(r)
                r=r-1
                d_vote[v_id]=party[r]
                done=True
            except:
                try:
                    for i in range(0,len(party_lower)):
                        if r.lower()==party_lower[i]:
                            d_vote[v_id]=party[i]
                            done=True
                else:
                    done=False
                print("Please enter correctly")

            except:
                if done==True:
                    done=False
                    print("Please enter correctly")
                else:
                    continue
            done_cand.append(v_id.upper())
            print("Thank you your vote registerd")
            print('')
            time.sleep(1)
            os.system('cls')
        else:
            print('')
            print('You can cast vote only once')
            print('')

        """counting votes"""

        voted_parties=[]
        for i in d_vote:
            voted_parties.append(d_vote[i])
        party_name=[]
        for i in df_representative['Party Name']:
            if i not in party_name:
                party_name.append(i)
            else:
                continue
        vote_count={}
        for i in party_name:
            vote_count[i]=voted_parties.count(i)
        return vote_count
    
```

## 2. graphs.py

```
import pandas as pd
import matplotlib.pyplot as pl
import time

def insert_into(year,dictionary):
    d=dictionary
    d_history=pd.read_csv("history.csv")
    d_voter=pd.read_csv("voters.csv")
    votes_casted=0
    for i in d:
        votes_casted+=d[i]
    total_voters=len(d_voter)
    participation=(votes_casted/total_voters)*100
    d_history['Participation']=round((d_history['votes']/total_voters)*100,2)
    insert=[year,votes_casted,d['Bhartiya Janta Party'],d['Bahujan Samaj Party'],
           d['Communist Party of India'],
           d['Communist Party of India (Marxist)'],
           d['Indian National Congress'],
           d['Nationalist Congress Party'],
           d['Independent'],
           votes_casted-(d['Bhartiya Janta Party']+d['Bahujan Samaj Party']+
           d['Communist Party of India']+d['Communist Party of India (Marxist)']+
           d['Indian National Congress']+d['Nationalist Congress Party']+d['Independent']),participation]
    d_history.loc[len(d_history.index)]=insert
    d_history.to_csv('history.csv',index=False)

def graph(party=None,participation=False):
    d_history=pd.read_csv('history.csv')
    d_history['Year']=d_history['Year'].astype(float).astype(int)
    if party==None and participation==True:
        d_history.plot(x='Year',y='Participation')
        d_part=d_history[['Participation','Year']]
        d_lastone=d_part.loc[len(d_part)-1]
        d_secondlast=d_part.loc[len(d_part)-2]
        if d_lastone['Participation'] > d_secondlast['Participation']:
            print('')
            print('='*80)
            print('More people participated in last elections than in previous one... ')
            time.sleep(1)
            print("Participation's on rise!!!")
            print('='*80)
            print('')
        elif d_lastone['Participation'] < d_secondlast['Participation']:
            print('')
            print('='*80)
            print('Less people participated in last elections than in previous one... ')
            time.sleep(1)
            print("Participation suffered setback!!!")
            print('='*80)
            print('')
        else:
            print('')
            print('='*80)
            print('Same number of people participated in last elections than in previous one... ')
            time.sleep(1)
            print("Participation's stable!!!")
            print('='*80)
            print('')
        a=str(input('View detailed graph of Participation (Y/N)?... '))
        pl.xlabel("Year")
        pl.ylabel("Percentage(%) vote casted")
        pl.title('Participation of People')
        if a in 'yY':
            pl.show()
        else:
            None
    elif party=='all' and participation==False:
        d_history.plot.bar(x='Year',y=['Bhartiya Janta Party','Bahujan Samaj Party',
                                       'Communist Party of India','Communist Party of India (Marxist)',
                                       'Indian National Congress','Nationalist Congress Party','Independent'])

    pl.title('Comparision between parties')
    pl.ylabel('Votes received by party')
    pl.show()
```

```

    elif participation==False and party!=None and party!="all":
        s=party+' (%)'
        d_party=d_history[[party,'Year']]
        d_lastone=d_party.loc[len(d_party)-1]
        d_secondlast=d_party.loc[len(d_party)-2]
        if d_lastone[party] > d_secondlast[party]:
            print(')')
            print('*'*80)
            print('Party recieived more votes in last election than previous one...')
            time.sleep(1)
            print("Party's on rise!!!")
            print('*'*80)
            print(')')
        elif d_lastone[party] < d_secondlast[party]:
            print(')')
            print('*'*80)
            print('Party recieived less votes in last election than previous one...')
            time.sleep(1)
            print("Party suffered setback!!!")
            print('*'*80)
            print(')')
        else:
            print(')')
            print('*'*80)
            print('Party recieived same votes in last election as in previous one...')
            time.sleep(1)
            print("Party's stable!!!")
            print('*'*80)
            print(')')
    a=str(input('View deatiled graph (Y/N)?...'))
    d_history[s]=(d_history[party]/d_history['votes'])*100
    d_history.plot(x='Year',y=s)
    pl.title('Party performance over years')
    pl.ylabel('% votes recieived by '+party)
    pl.xlabel('Year')
    if a in 'Y':
        pl.show()
    else:
        None

elif party=='all' and participation==True:
    d_history.plot(x='Year',y='Participation')
    pl.xlabel("Year")
    pl.ylabel("Percentage(%) vote casted")
    pl.title('Participation of People')
    d_history.plot.bar(x='Year',y=['Bhartiya Janta Party','Bahujan Samaj Party',
                                    'Communist Party of India','Communist Party of India (Marxist)',
                                    'Indian National Congress','Nationalist Congress Party','Independent'])
    pl.title('Comparision between parties')
    pl.ylabel('Votes recieived by party')
    pl.show()

elif participation=="True and party!=None and party!='all':
    d_history.plot(x='Year',y='Participation')
    pl.xlabel("Year")
    pl.ylabel("Percentage(%) vote casted")
    pl.title('Participation of People')
    s=party+' (%)'
    d_history[s]=(d_history[party]/d_history['votes'])*100
    d_history.plot(x='Year',y=s)
    pl.title('Party performance over years')
    pl.ylabel('% votes recieived by '+party)
    pl.xlabel('Year')
    pl.show()

def view():
    d_history=pd.read_csv('history.csv')
    d_last=d_history.loc[len(d_history.index)-1]
    year=int(d_last['Year'])
    bjp=int(d_last['Bhartiya Janta Party'])
    bsp=int(d_last['Bahujan Samaj Party'])
    cpi=int(d_last['Communist Party of India'])
    cpim=int(d_last['Communist Party of India (Marxist)'])
    inc=int(d_last['Indian National Congress'])
    ncp=int(d_last['Nationalist Congress Party'])
    ind=int(d_last['Independent'])
    oth=int(d_last['Others'])
    print(')')
    print('*'*30,str(year)+RESULTS +'='*30)
    print('Bhartiya Janta Party :',bjp)
    print('Bahujan Samaj Party :',bsp)
    print('Communist Party of India :',cpi)
    print('Communist Party of India (Marxist) :',cpim)
    print('Indian National Congress :',inc)
    print('Nationalist Congress Party :',ncp)
    print('Independent :',ind)
    print('Others :',oth)
    print('*'*len('*'*30+str(year)+RESULTS +'='*30))
    print(')')

```

### 3. registrations.py :

```
import pandas as pd
import time
d_rep=pd.read_csv('representatives.csv')
d_voter=pd.read_csv('voters.csv')
parties=[]
for i in d_rep['Party Name']:
    if i not in parties:
        parties.append(i)
    else:
        continue

parties.remove('Independent')
parties.append('Independent')
def reg_cand(parties=parties,d_rep=d_rep):
    firstName=str(input('Enter your first name.. ')).capitalize()
    lastName=str(input('Enter your last name... ')).capitalize()
    Name=lastName+', '+firstName

    Age=int(input('Enter your Age.. '))
    if Age >= 25 :
        time.sleep(1)
        print('')
        print('*'*10+'Welcome '+Name+'*'*10)
        print('')
        print('Select your party number or choose independent if candidate is independent')
        print('')
        for i in range(len(parties)):
            print(str(i+1)+') '+parties[i])
        print('')
        print('*'*(len(list(Name))+28))
        print('')
        party=int(input(''))
        print('')
        party=parties[party-1]
    else:
        print('Minimum age for contesting elections is 25 years hence you are not eligible')
        return None
    cons=str(input('Enter your constituency...')).capitalize()
    state=str(input('Enter your state...')).capitalize()
    constituency=cons+' ('+state+')'
    d_rep.loc[len(d_rep.index)]=[Name,constituency,party]
    print('')
    print('*'*10+'Your details'*'*10)
    print('Name : '+Name)
    print('Party Name : '+party)
    print('Constituency : '+constituency)
    print('*'*32)
    print('')
    confirm=str(input('Confirm registration (Y/N)?...'))
    if confirm in 'yY':
        d_rep.to_csv('representatives.csv',index=False)
        time.sleep(1)
        return 'Registration done successfully!!'
    else:
        return None
```

```
def reg_voter(d_voter=d_voter):
    Name=str(input('Enter your name... ')).capitalize()
    print('')
    print('*'*10+'Welcome '+Name+'*'*10)
    print('')
    Age=int(input('Enter your Age... '))
    if Age>=18:
        cons=str(input('Enter your constituency... ')).capitalize()
        state=str(input('Enter your state... ')).capitalize()
        constituency=cons+' ('+state+')'
    else:
        print('Legal age for voters is 18 hence you are not eligible')
    vid=cons.upper()[:2]+str(len(d_voter.index)+1)
    insert=[Name, constituency, vid]
    d_voter.loc[len(d_voter.index)]=insert
    print('')
    print('*'*10+'Your Details'*10)
    print('Name : ',Name)
    print('Age : ',Age)
    print('Constituency : ',constituency)
    print('Voter ID : ',vid)
    print('*'*32)
    print('')

    confirm=str(input('Confirm Registration (Y/N)?... '))
    if confirm in 'yY':
        d_voter.to_csv('voters.csv',index=False)
        time.sleep(1)
        return 'Registration done successfully!!'
    else:
        return None
```

#### 4. IP class XII Practical.py :

```
import pandas as pd
import registrations
import graphs
import election
import time
d_history=pd.read_csv('history.csv')
d_rep=pd.read_csv('representatives.csv')
print('')
print('*'*20+' WELCOME TO ELECTION PORTAL OF INDIA '+'*'*20)
time.sleep(1)
print('')
parties=[]
parties_h=list(d_history.columns)
parties_h.remove('Year')
parties_h.remove('votes')
parties_h.remove('Participation')
functions=['Register Voter','Register Candidate','Conduct elections','Analysis','Results of last conducted elections','Exit']
analysis=['Comparision between parties over the years', 'Particular party performance', 'Participation of people in elections']
for i in d_rep['Party Name']:
    if i not in parties:
        parties.append(i)
    else:
        continue
start=True
while start==True:
    print('')
    print('*'*50)
    print('')
    print('' LIST OF ALL FUNCTIONS')
    print('')
    print('*'*50)
    print('')
    print('')
    for i in range(len(functions)):
        print(str(i+1)+') '+functions[i])
    print('')
    print('*'*50)
    print('')
    time.sleep(1)
    resp=input('Select the function by number... ')
    time.sleep(1)
    print('')

try:
    if int(resp)==6:
        print('Exiting in 3...')
        time.sleep(1)
        print('2...')
        time.sleep(1)
        print('1...')
        time.sleep(1)
        print('')
        print('****** * * * * * * * * * * * * * * * *')
        print(' * * * * * * * * * * * * * * * * * * * *')
        print(' * * * * * * * * * * * * * * * * * * * *')
        print(' * * * * * * * * * * * * * * * * * * * *')
        print(' * * * * * * * * * * * * * * * * * * * *')
        print(' * * * * * * * * * * * * * * * * * * * *')
        start=False
    elif int(resp)==3:
        year=int(input('Enter current year election conduction...'))
        d_last=d_history.loc[len(d_history.index)-1]
        if (year)-(d_last['Year']) < 5:
            print('')
            print('*'*90)
            print('Elections are conducted within 5 years gap')
            print('Last elections were conducted in '+str(int(d_last['Year']))+' hence, elections cant be conducted right now')
            print('*'*90)
            print('')
            overrule=str(input('Overrule the the gap (Y/N)?... '))
            print('')
            if overrule in 'yY':
                print('Beginning elections in 3...')
                time.sleep(1)
                print('2...')
                time.sleep(1)
                print('1...')
                time.sleep(1)
                print('NOW!!!')
                time.sleep(1)
            print('')
            d=selection.run_election()
            sorted_dict = sorted(
                d.items(),
                key = lambda kv: kv[1], reverse=True)
```

```

d=dict(sorted_dict)
total_votes=0
for i in d:
    total_votes+=d[i]
graphs.insert_into(year,d)
print('')
res=str(input('Display results (Y/N)?... '))

if res in 'yY':
    print('')
    print('='*70)
    for i in d:
        print(i+': '+str(int(d[i])))
    print('Total votes casted : '+str(total_votes))
    print('='*70)
    print('')
    time.sleep(10)
else:
    time.sleep(1)
    continue

else:
    time.sleep(1)
    continue

else:
    print('Beginning elections in 3...')
    time.sleep(1)
    print('2...')
    time.sleep(1)
    print('1...')
    time.sleep(1)
    print('NOW!!!!')
    time.sleep(1)
    print('')
    d=election.run_election()
    sorted_dict = sorted(
        d.items(),
        key = lambda kv: kv[1], reverse=True)
d=dict(sorted_dict)
total_votes=0

for i in d:
    total_votes+=d[i]
graphs.insert_into(year,d)
print('')
res=str(input('Display results (Y/N)?... '))

if res in 'yY':
    print('')
    print('='*70)
    for i in d:
        print(i+': '+str(int(d[i])))
    print('Total votes casted : '+str(total_votes))
    print('='*70)
    print('')
    time.sleep(10)
else:
    time.sleep(1)
    continue
elif int(resp)==5:
    graphs.view()

time.sleep(10)
elif int(resp)==1:
    print(registrations.reg_voter())
    print('')
    time.sleep(1)
elif int(resp)==2:
    print(registrations.reg_cand())
    print('')
    time.sleep(1)
elif int(resp)==4:
    print('')
    print('*'*10,'Select mode of analysis by its number','*'*10)
    print('')
    for i in range(len(analysis)):
        print(str(i+1)+')',analysis[i])
        print('')
    print('*'*(len('*'*10+'Select mode of analysis by its number'*'*10)+2))
    print('')
    ana=int(input())

```

```

print('')
time.sleep(1)
if ana==1:
    graphs.graph(party='all',participation=False)
    time.sleep(1)
elif ana==2:
    print('*'*10+' Select a party by its indicated number '+'*10)
    print('')
    for i in range(len(parties_h)):
        print(str(i+1)+') '+parties_h[i])
    print('')
    print('*'*len('*'*10+' Select a party by its indicated number '+'*10))
    print('')
    party=int(input())
    party=parties_h[party-1]
    graphs.graph(party=party,participation=False)
    time.sleep(1)
elif ana==3:
    graphs.graph(party=None,participation=True)
    time.sleep(1)
else:
    print('Enter input correctly...')
    print('Going to sleep mode for 30 seconds...')
    time.sleep(20)
    for i in range(0,10):
        print(10-i)
        time.sleep(1)
except:
    print('Enter input correctly...')
    print('Going to sleep mode for 30 seconds...')
    time.sleep(20)
    for i in range(0,10):
        print(10-i)
        time.sleep(1)

```

# Outputs

1.

===== WELCOME TO ELECTION PORTAL OF INDIA =====

\*\*\*\*\*

LIST OF ALL FUNCTIONS

\*\*\*\*\*

- 1) Register Voter
- 2) Register Candidate
- 3) Conduct elections
- 4) Analysis
- 5) Results of last conducted elections
- 6) Exit

→ Main Menu

\*\*\*\*\*

Select the function by number... |

2.

Select the function by number... 1

Enter your name... Tanmay

=====Welcome Tanmay=====

Enter you Age... 18

Enter your constituency... Jaipur

Enter your state... Rajasthan

→ Voter registration

=====Your Details=====

Name : Tanmay

Age : 18

Constituency : Jaipur (Rajasthan)

Voter ID : JA105

=====

Confirm Registration (Y/N)?... y  
Registration done successfully!!

→ Confirmation

3.

Select the function by number... 2

Enter your first name... Harish  
Enter your last name... Verma  
Enter your Age... 32

=====Welcome Verma, Harish=====

Select your party number or choose independent if candidate is independent

- 1) All India United Democratic Front
- 2) All India Trinamool Congress
- 3) Bhartiya Janta Party
- 4) Shiromani Akali Dal
- 5) Communist Party of India
- 6) Indian National Congress
- 7) Nationalist Congress Party
- 8) Communist Party of India (Marxist)
- 9) Bahujan Samaj Party
- 10) Independent

→ Candidate Registration

=====

10

Enter your contituency...Jaipur  
Enter your state...Rajasthan

=====Your details=====

Name : Verma, Harish  
Party Name : Independent  
Constituency : Jaipur (Rajasthan)  
=====

→ Confirmation

Confirm registeration (Y/N)?...y  
Registration done successfully!!

4.

Select the function by number... 3

→ Election Conduction

Enter current year election conduction...2016  
=====

Elections are conducted within 5 years gap  
Last elections were conducted in 2014 hence, elections cant be conducted right now  
=====

Overrule the the gap (Y/N)?... y

Beginning elections in 3...  
2...  
1...  
NOW!!!

→ Over rude permission

5.  Election Conduction portal

Please enter voter ID or type "end" to end the elections... ja105

=====Welcome Tanmay=====

Parties/Candidates contesting from your constituency i.e. Jaipur (Rajasthan)

- 1) All India United Democratic Front
  - 2) Bhartiya Janta Party
  - 3) Verma, Harish(Independent)
- =====

Choose one of them by number or their name

3

Thank you your vote registered

6.

Please enter voter ID or type "end" to end the elections... end

Display results (Y/N)?... y

=====  
Independent : 1  
All India United Democratic Front : 0  
All India Trinamool Congress : 0  
Bhartiya Janta Party : 0  
Shiromani Akali Dal : 0  
Communist Party of India : 0  
Indian National Congress : 0  
Nationalist Congress Party : 0  
Communist Party of India (Marxist) : 0  
Bahujan Samaj Party : 0  
Total votes casted : 1

=====

Ending and displaying results 

7.

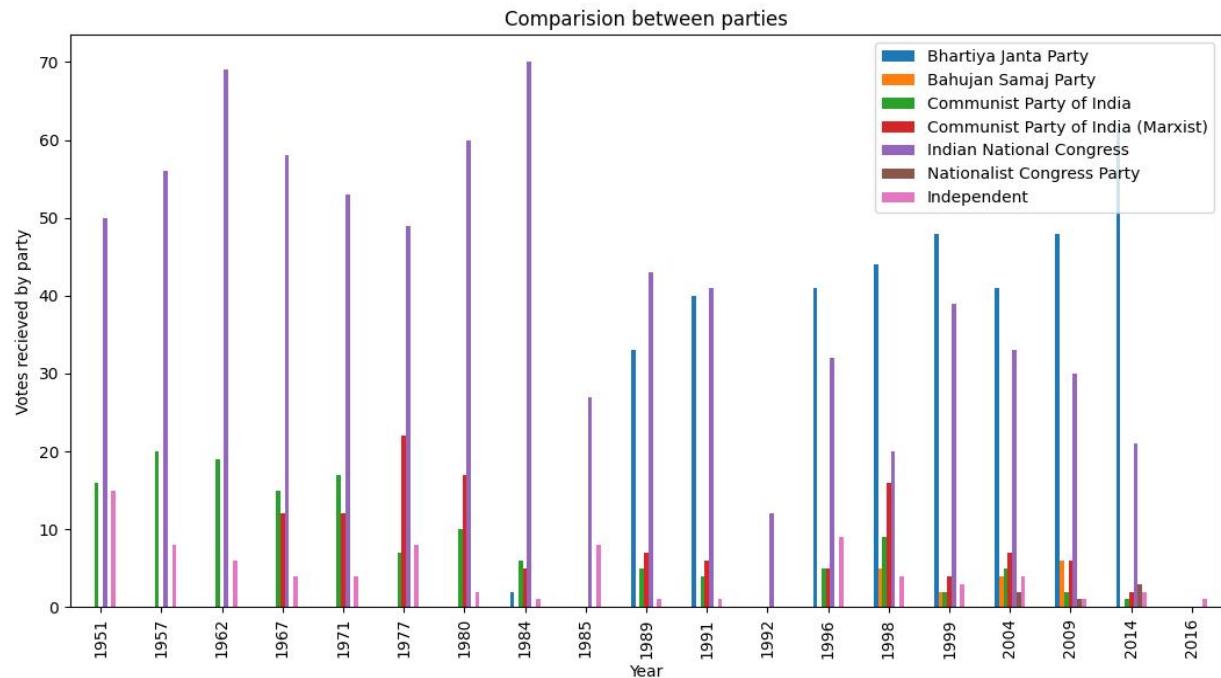
Select the function by number... 4

===== Select mode of analysis by its number =====

- 1) Comparision between parties over the years
  - 2) Particular party performance
  - 3) Participation of people in elections
- =====

 Analysis portal

8.



Graph of comparison between various parties

9.

Select the function by number... 4

Particular party performance

===== Select mode of analysis by its number =====

- 1) Comparision between parties over the years
  - 2) Particular party performance
  - 3) Participation of people in elections
- =====

2



===== Select a party by its indicated number =====

- 1) Bhartiya Janta Party
  - 2) Bahujan Samaj Party
  - 3) Communist Party of India
  - 4) Communist Party of India (Marxist)
  - 5) Indian National Congress
  - 6) Nationalist Congress Party
  - 7) Independent
  - 8) Others
- =====

1

=====  
Party received less votes in last election than previous one...  
Party suffered setback!!!  
=====

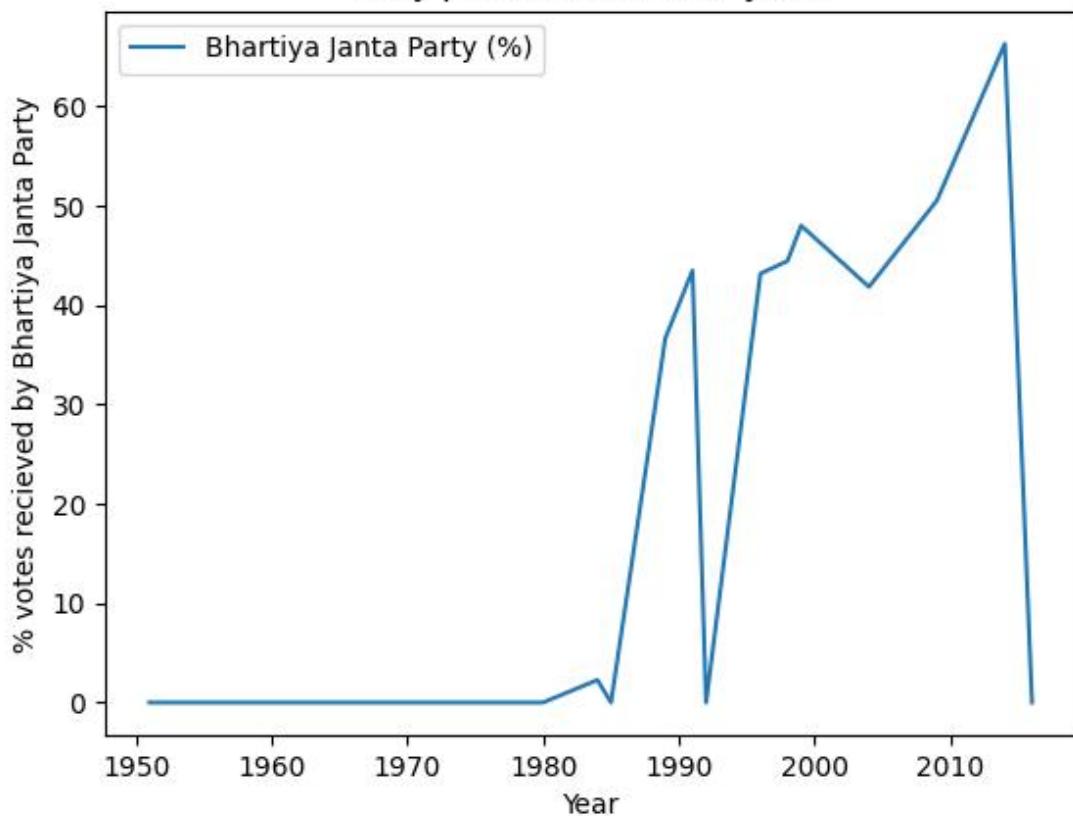
View detailed graph (Y/N)?...y

10.

### Detailed graph



Party performance over years



11.

Select the function by number... 4

### Participation of people



===== Select mode of analysis by its number =====

- 1) Comparision between parties over the years
  - 2) Particular party performance
  - 3) Participation of people in elections
- =====

3

=====  
Less people participated in last elections than in previous one...  
Participation suffered setback!!!  
=====

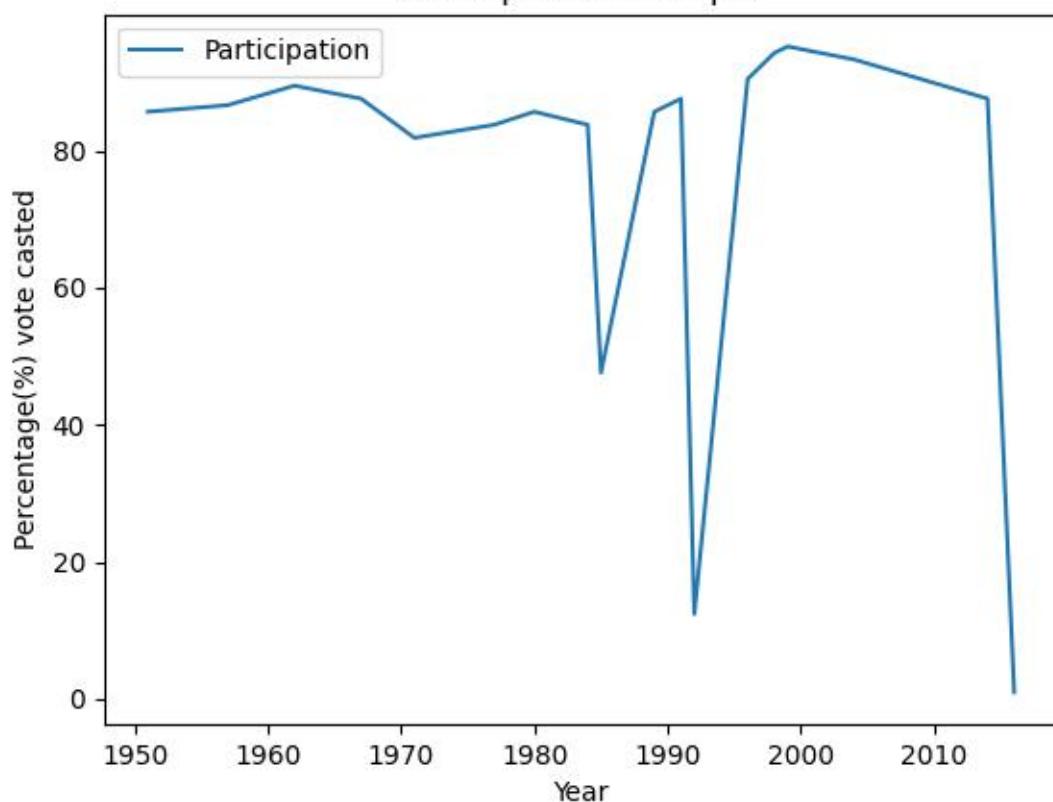
View detailed graph of Participation (Y/N)?...y

12.

### Detailed graph



Participation of People



13.

Select the function by number... 5

```
===== 2016 RESULTS =====
Bhartiya Janta Party : 0
Bahujan Samaj Party : 0
Communist Party of India : 0
Communist Party of India (Marxist) : 0
Indian National Congress : 0
Nationalist Congress Party : 0
Independent : 1
Others : 0
=====
```



Results of last conducted elections

14.

Select the function by number... 6

Exiting in 3...

2...

1...

```
***** *   *   *   *   *   *   *   *   *   *   *   *   *  
*   *   *   *   *   *   *   *   *   *   *   *   *   *   *  
*   ***** *   *   *   *   *   *   *   *   *   *   *   *  
*   *   *   *   *   *   *   *   *   *   *   *   *   *   *  
*   *   *   *   *   *   *   *   *   *   *   *   *   *   *  
*   *   *   *   *   *   *   *   *   *   *   *   *   *   *
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Exiting the portal

