- prezArray: President[]

- pElem: int

- updateArray: President[]

- uElem: int

- table1: OpenHash

- table2: OpenHash

- table3: ChainHash

PrezController

- fr: FileReader

- br: BufferedReader

- fileData: ArrayList<Presidents>

President

main (String[] args): void

Main

FileInterface

+ President\_Controller()

+ insertArray(president: President): void

+ insertUpdate(president:President): void

- makeKey(name: String): int

+ buildOpenHash(): void

+ buildChainHash(): void

+ updateTables(): void

+ updateChainTable(): void

+ displayStats(): void

- getTxnHeader(): void

- getTableHeader(table: int): void

- getUpdateHeader(table: int): void

- getChainHeader(): void

- getChainUpdateHeader(): void

+ FileInterface (file: String)

+ parse(): void

+ parseUpdate(): void

+ getFileData(): ArrayList<President>

- key: int

- number: int

- name: String

- years: int

- party: String

- code: String

- state: String

+ SortedList()

+ insert(link: Link): void

+ delete(link: Link): Link

+ displayList(): void

- first: Link

SortedList

Link

+ Link(inKey: int, inPrez: President)

+ getKey(): int

+ setKey(newKey: int): void

+ getName(): String

+ displayLink(): void

- key: int

- president: President

- next: Link

+ ChainHash(size: int)

+ displayTable(): void

+ hashFunc(key: int): int

+ insert(link: Link): void

+ delete(link: Link): void

- hashArray: SortedList[]

- arraySize: int

ChainHash

+ President(pNum: int, pName: String, pYears: int, pParty: String, pState: String, pCode: String)

+ getKey(): int

+ getName(): String

+ setKey(inKey: int): void

+ getCode(): String

+ DataItem(inKey: int, inPrez:President)

+ getKey(): int

+ getName(): String

+ getPresident(): President

- key: int

- president: President

+ OpenHash(size: int)

+ displayTable(table: int): void

+ hashFunc(key: int): int

+ insert(item: DataItem): void

+ insertUpdate(item: DataItem): void

+ delete(item: DataItem): DataItem

+ getProbes(): int

+ getFoundArray(): int[]

- hashArray: DataItem[]

- arraySize: int

- nonItem: President

- probeArray: int[]

- probeElem: int

- foundArray: int[]

- foundElem: int

OpenHash

DataItem