

CS 531: Fundamentals of Systems Programming
Fall 2025 Instructor: Hal Greenwald
Homework # 2 Sample test scenario

CS531_inet.txt:

111.22.3.44 platte
131.250.95.21 jet
172.66.7.88 wabash
111.22.5.66 green
131.250.47.63 baker
83.123.150.205 opal
172.66.7.89 wabash2

The program will initially read in all data records from **CS531_inet.txt**, and create a single linked list of **address_t** nodes containing this data (i.e. one node per data record).

- 1) Add address
- 2) Look up address
- 3) Update address
- 4) Delete address
- 5) Display list
- 6) Display aliases for location
- 7) Save to file
- 8) Quit

Enter option: **5**

111.22.3.44 platte
131.250.95.21 jet
172.66.7.88 wabash
111.22.5.66 green
131.250.47.63 baker
83.123.150.205 opal
172.66.7.89 wabash2

Total node count: 7

(note: node order not relevant for this exercise)

(menu redisplayed after every command)

Enter option: **1**

Enter alias: **wabash**

error: wabash already exists

Enter option: **1**

Enter alias: **wabash3**

Enter address for wabash3: **172.666.7.90**
error: 172.666.7.90 is an illegal address – please reenter:
Enter address for wabash3: **172.66.7.90**

Enter option: 6
Enter location value # 1 (0-255): **272**
error: 272 is an illegal entry – please reenter
Enter location value # 1 (0-255): **172**
Enter location value # 2: (0-255): **66**
172.66.7.88 wabash
172.66.7.89 wabash2
172.66.7.90 wabash3

Enter option: 4
Enter alias: **jet2**
error: Jet2 does not exist

Enter option: 4
Enter alias: jet
Delete jet 131.250.95.21? (y/n) **y**
jet deleted

Enter option: 2
Enter alias: **jet**
error: jet does not exist

Enter option: 2
Enter alias: **cat**
error: cat does not exist

Enter option: 2
Enter alias: **baker**
Address for baker: 131.250.47.63

Enter option: 3
Enter alias: **baker**
Update address for baker: 131.250.47.63
Enter location value # 1 (0-255): **83**
Enter location value # 2 (0-255): **123**
Enter value # 3 (0-255): **447**
error: 447 is an illegal entry – please reenter:
Enter value # 3 (0-255): **47**
Enter value # 4 (0-255): **63**

Enter option: **5**

111.22.3.44 platte

172.66.7.88 wabash

111.22.5.66 green

83.123.47.63 baker

83.123.150.205 opal

172.66.7.89 wabash2

172.66.7.90 wabash3

Total node count: 7

(note: node order not relevant for this exercise)

Enter option: **7**

Enter file name: **CS531_Inet-v2**

File saved.

Enter option: **8**

Good bye!

Cat CS531_Inet-v2 (to ensure correctness).