

# HW1 Report

Isaias Rivera

9/17/2021

CS 528

The following values are generated at runtime after the algorithm finishes, the screenshots towards the end of this file demonstrate this.

Task 1(c)

Distortion 0.155

Precision 0.8906

Task 2(c)

Distortion 0.1205

Precision 0.9281

Task 2(d) I :  $C = 0.5$

Distortion 0.1384

Precision 0.8126

Task 2(d) II :  $C = 1$

Distortion 0.1233

Precision 0.9204

Task 2(d) III :  $C = 2$

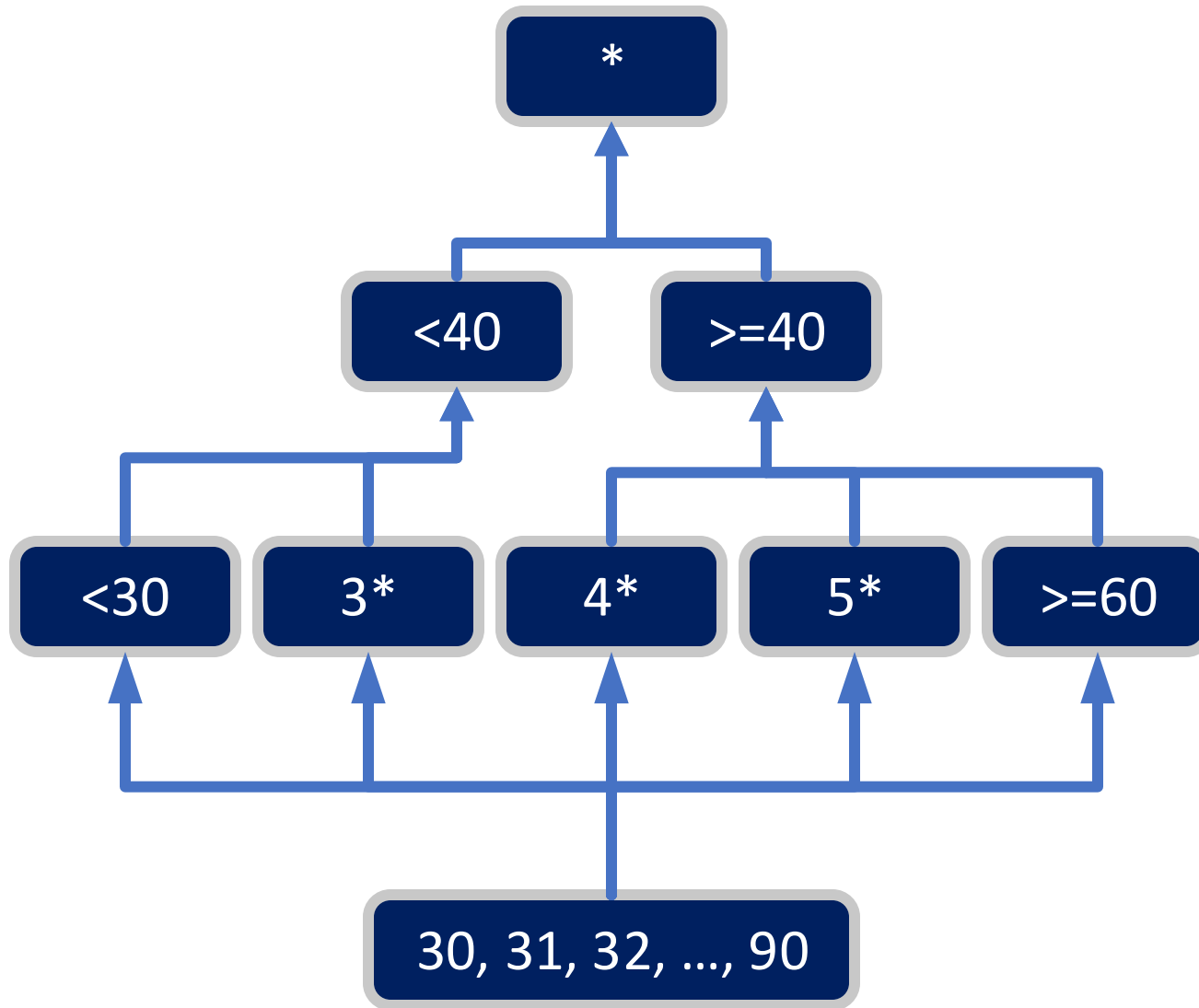
Distortion 0.1162

Precision 0.9361

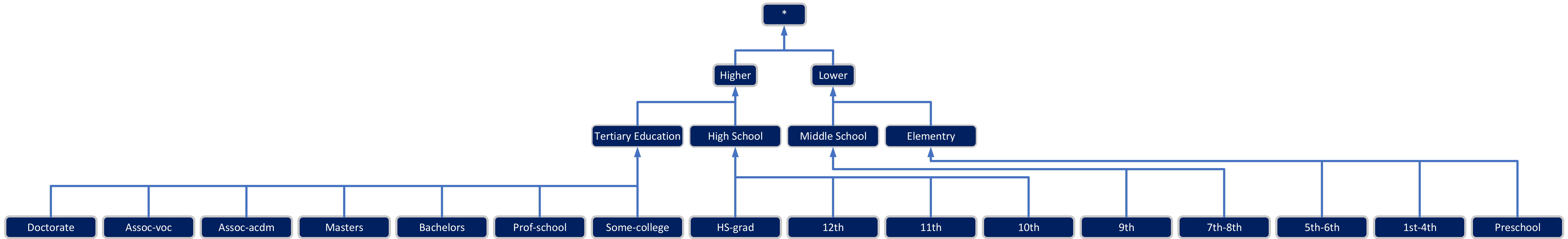
# Generalization Hierarchies

Task 1(a)

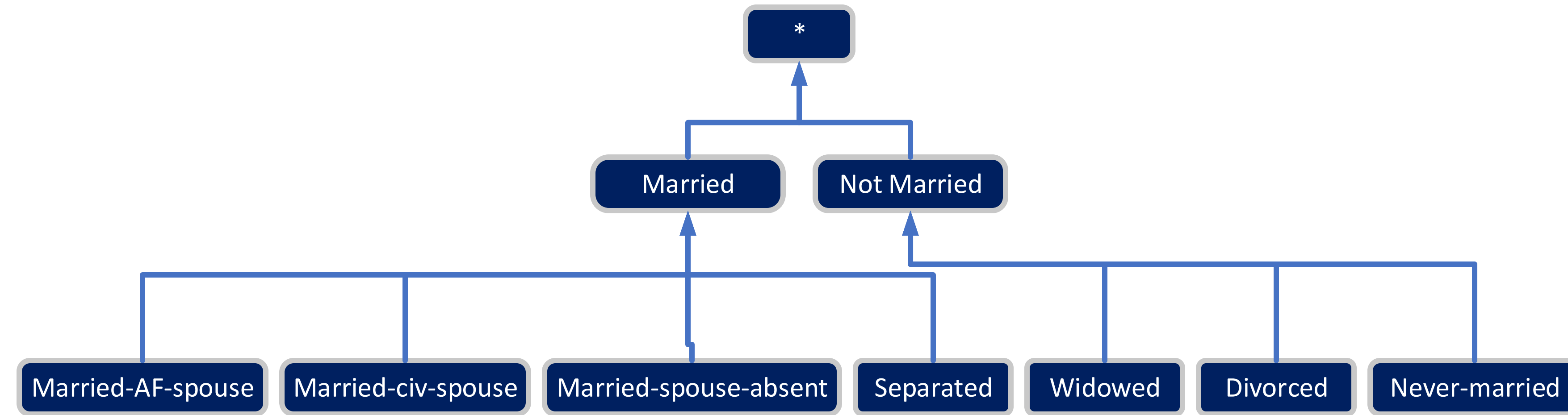
# Age Generalization Hierarchy



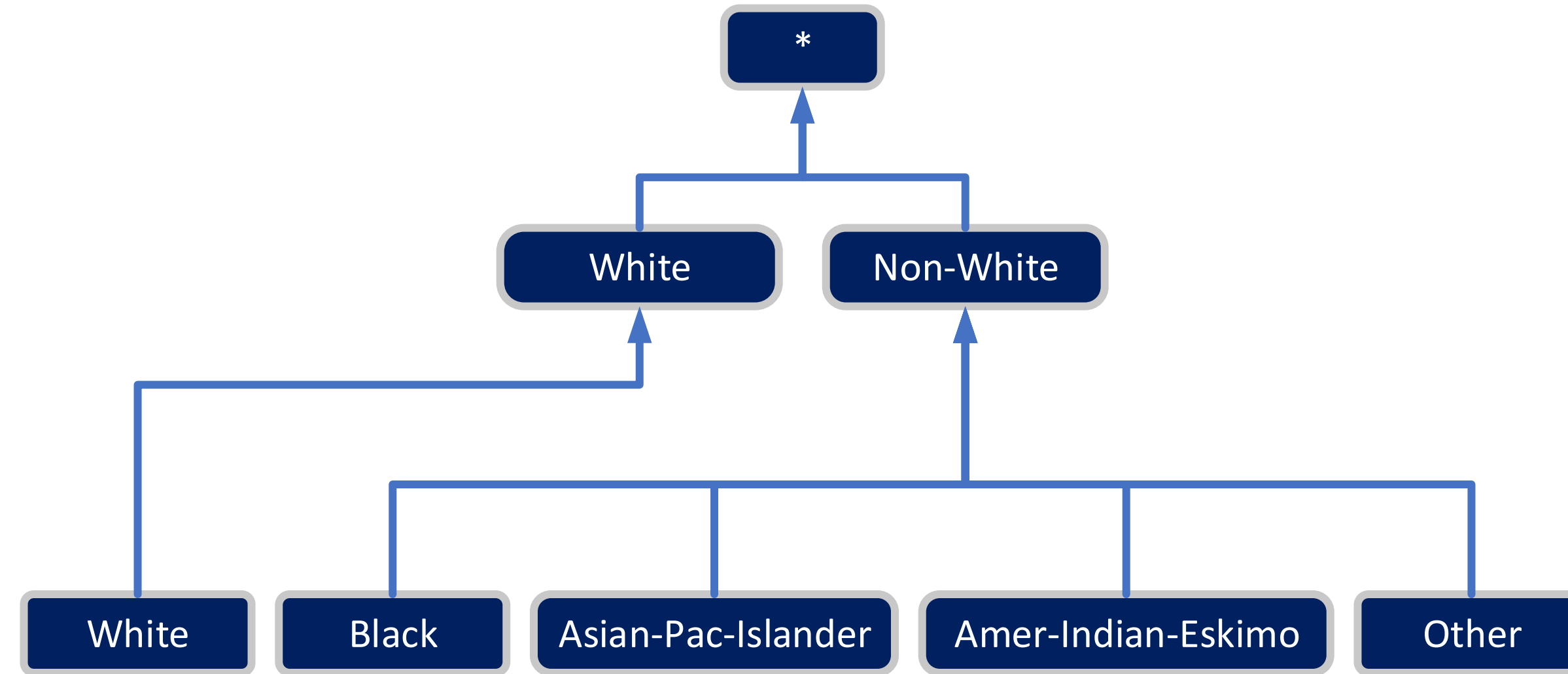
Education  
Generalization Hierarchy



Marital Status  
Generalization Hierarchy



Race  
Generalization Hierarchy



# Screenshots

Task 1(c),2(c, d)



C:\Windows\system32\cmd.exe

Running Task 1

Task1 K:None L:None C:None

Task1 Interpreting Data

Condensing 32561 blocks

q\*-blocks: 5949

q\*-blocks: 5363

q\*-blocks: 4157

q\*-blocks: 2316

q\*-blocks: 1550

q\*-blocks: 1544

q\*-blocks: 1534

q\*-blocks: 1532

q\*-blocks: 1531

Unable to further generalize

Done: 1531

Users: 32561

Over-Generalized Users: 0

Removed 6 unsatisfied users from a total of 32561 users

Printing output of 1530 blocks

Final User Count 32555/32561 : 99.98%

Task 1 (c)

Average Distortion: 0.155

Average Precision: 0.8906

Press any key to continue ...

**Current Task and global parameters**

**Distortion and precision for task**

```
C:\Windows\system32\cmd.exe
Running Task 1
Task1 K:None L:None C:None

Task1 Interpreting Data
Condensing 32561 blocks
q*-blocks: 5949
q*-blocks: 5363
q*-blocks: 4157
q*-blocks: 2316
q*-blocks: 1550
q*-blocks: 1544
q*-blocks: 1534
q*-blocks: 1532
q*-blocks: 1531
Unable to further generalize
Done: 1531
Users: 32561
Over-Generalized Users: 0
Removed 6 unsatisfied users from a total of 32561 users
Printing output of 1530 blocks

Final User Count 32555/32561 : 99.98%

Task 1 (c)

Average Distortion: 0.155
Average Precision: 0.8906

Press any key to continue ...
```

Running Task 2 (c)

Task2c K:5 L:3 C:None

Task2c Interpreting Data

Condensing 32561 blocks

q\*-blocks: 4861

q\*-blocks: 4345

q\*-blocks: 3450

q\*-blocks: 2158

q\*-blocks: 1672

Unable to further generalize

Done: 1672

Users: 32561

Over-Generalized Users: 0

Removed 336 unsatisfied users from a total of 32561 users

Printing output of 1664 blocks

Final User Count 32225/32561 : 98.97%

Task 2 (c)

Average Distortion: 0.1205

Average Precision: 0.9281

Press any key to continue ...

Running Task 2 (d) I  
Task2dI K:5 L:3 C:0.5

Task2dI Interpreting Data

Condensing 32561 blocks

q\*-blocks: 4861

q\*-blocks: 4251

q\*-blocks: 3055

q\*-blocks: 1492

q\*-blocks: 833

q\*-blocks: 823

q\*-blocks: 811

q\*-blocks: 808

q\*-blocks: 806

q\*-blocks: 804

q\*-blocks: 803

Done: 803

Users: 30352

Over-Generalized Users: 2209

Printing output of 803 blocks

Final User Count 30352/32561 : 93.22%

Task 2 (d) I

Average Distortion: 0.1384

Average Precision: 0.8126

Press any key to continue ...

```
C:\Windows\system32\cmd.exe
Running Task 2 (d) II
Task2dII K:5 L:3 C:1

Task2dII Interpreting Data
Condensing 32561 blocks
q*-blocks: 4861
q*-blocks: 4307
q*-blocks: 3315
q*-blocks: 1919
q*-blocks: 1365
q*-blocks: 1363
q*-blocks: 1359
q*-blocks: 1358
q*-blocks: 1355
Unable to further generalize
Done: 1355
Users: 32561
Over-Generalized Users: 0
Removed 1769 unsatisfied users from a total of 32561 users
Printing output of 1353 blocks

Final User Count 30792/32561 : 94.57%

Task 2 (d) II

    Average Distortion: 0.1233
    Average Precision: 0.9204

Press any key to continue ...
```



Running Task 2 (d) III

Task2dIII K:5 L:3 C:2

Task2dIII Interpreting Data

Condensing 32561 blocks

q\*-blocks: 4861

q\*-blocks: 4350

q\*-blocks: 3484

q\*-blocks: 2221

q\*-blocks: 1733

q\*-blocks: 1731

q\*-blocks: 1728

q\*-blocks: 1725

q\*-blocks: 1723

q\*-blocks: 1722

q\*-blocks: 1720

Done: 1720

Users: 31891

Over-Generalized Users: 670

Printing output of 1720 blocks

Final User Count 31891/32561 : 97.94%

Task 2 (d) III

Average Distortion: 0.1162

Average Precision: 0.9361

Press any key to continue ...