**Problem 3c**

I ran run\_p3.py on ‘profile.txt’

**Final output:**

Here's the best schedule:

Quarter Units Course

Win2016 4 CS228

Win2016 3 CS223A

Win2016 3 CS140

Spr2016 3 CS155

Spr2016 3 CS225A

Spr2016 4 CS161

Aut2016 4 CS145

Aut2016 3 CS144

Aut2016 3 CS229

**Analysis**:

Yup. That’s exactly what I decided to take. Cool stuff! ☺

**Program output:**

Units: 0-10

Quarter: ['Win2016', 'Spr2016', 'Aut2016']

Taken: set(['CS221', 'CS103', 'STATS116', 'CS110', 'CS107', 'CS106B', 'CME104', 'CME106', 'CS109', 'CME100', 'CME102'])

Requests:

Request{['CS145'] [] [] 4.0}

Request{['CS228'] [] [] 4.0}

Request{['CS223A'] [] [] 4.0}

Request{['CS144'] [] [] 6.0}

Request{['CS140'] [] [] 2.0}

Request{['CS155'] [] ['CS140'] 6.0}

Request{['CS225A'] [] ['CS223A'] 3.0}

Request{['CS161'] ['Spr2016', 'Aut2016'] [] 10.0}

Request{['CS229'] ['Aut2016'] [] 6.0}

Request{['CS246'] [] ['CS145'] 10.0}

Found 24 optimal assignments with weight 829440.000000 in 568611 operations

First assignment took 112 operations

829440.0

('CS161', 'Spr2016') = 4

(Request{['CS246'] [] ['CS145'] 10.0}, 'Spr2016') = None

('CS145', 'Win2016') = 0

(Request{['CS228'] [] [] 4.0}, 'Aut2016') = None

('CS161', 'Win2016') = 0

(Request{['CS161'] ['Spr2016', 'Aut2016'] [] 10.0}, 'Spr2016') = CS161

('CS223A', 'Win2016') = 3

('sum', 'Win2016\_units', 1) = (0, 4)

(Request{['CS145'] [] [] 4.0}, 'Win2016') = None

('CS161', 'Aut2016') = 0

('sum', 'Win2016\_units', 3) = (7, 7)

('sum', 'Spr2016\_units', 10) = 10

('sum', 'Aut2016\_units', 4) = (7, 7)

('sum', 'Win2016\_units', 5) = (10, 10)

('or', ((Request{['CS246'] [] ['CS145'] 10.0}, 'Spr2016'), 'CS145'), 'aggregated') = False

('CS246', 'Spr2016') = 0

('sum', 'Aut2016\_units', 6) = (7, 7)

('sum', 'Win2016\_units', 7) = (10, 10)

('or', ((Request{['CS155'] [] ['CS140'] 6.0}, 'Win2016'), 'CS140'), 'aggregated') = False

('sum', 'Aut2016\_units', 0) = (0, 4)

('or', ((Request{['CS246'] [] ['CS145'] 10.0}, 'Aut2016'), 'CS145'), 1) = no

('sum', 'Win2016\_units', 9) = (10, 10)

('CS223A', 'Spr2016') = 0

('CS140', 'Win2016') = 3

('sum', 'Aut2016\_units', 2) = (4, 4)

('or', ((Request{['CS155'] [] ['CS140'] 6.0}, 'Aut2016'), 'CS140'), 'aggregated') = True

('CS155', 'Aut2016') = 0

('CS144', 'Spr2016') = 0

(Request{['CS155'] [] ['CS140'] 6.0}, 'Win2016') = None

('sum', 'Spr2016\_units', 8) = (10, 10)

(Request{['CS246'] [] ['CS145'] 10.0}, 'Win2016') = None

('or', ((Request{['CS225A'] [] ['CS223A'] 3.0}, 'Win2016'), 'CS223A'), 'aggregated') = False

('or', ((Request{['CS155'] [] ['CS140'] 6.0}, 'Aut2016'), 'CS140'), 1) = prev

('or', ((Request{['CS246'] [] ['CS145'] 10.0}, 'Aut2016'), 'CS145'), 'aggregated') = False

('sum', 'Aut2016\_units', 8) = (7, 10)

('CS140', 'Spr2016') = 0

(Request{['CS140'] [] [] 2.0}, 'Aut2016') = None

('sum', 'Spr2016\_units', 4) = (0, 0)

(Request{['CS161'] ['Spr2016', 'Aut2016'] [] 10.0}, 'Aut2016') = None

('CS228', 'Aut2016') = 0

('sum', 'Spr2016\_units', 6) = (3, 6)

('or', ((Request{['CS155'] [] ['CS140'] 6.0}, 'Spr2016'), 'CS140'), 0) = equals

('or', ((Request{['CS225A'] [] ['CS223A'] 3.0}, 'Spr2016'), 'CS223A'), 0) = equals

(Request{['CS144'] [] [] 6.0}, 'Win2016') = None

('sum', 'Spr2016\_units', 0) = (0, 0)

('CS246', 'Aut2016') = 0

('or', ((Request{['CS225A'] [] ['CS223A'] 3.0}, 'Aut2016'), 'CS223A'), 1) = prev

('CS144', 'Aut2016') = 3

('sum', 'Spr2016\_units', 2) = (0, 0)

(Request{['CS145'] [] [] 4.0}, 'Spr2016') = None

(Request{['CS225A'] [] ['CS223A'] 3.0}, 'Win2016') = None

('CS145', 'Spr2016') = 0

(Request{['CS140'] [] [] 2.0}, 'Win2016') = CS140

('CS223A', 'Aut2016') = 0

('or', ((Request{['CS246'] [] ['CS145'] 10.0}, 'Aut2016'), 'CS145'), 0) = no

(Request{['CS228'] [] [] 4.0}, 'Spr2016') = None

('sum', 'Aut2016\_units', 10) = 10

('CS228', 'Spr2016') = 0

(Request{['CS225A'] [] ['CS223A'] 3.0}, 'Spr2016') = CS225A

(Request{['CS155'] [] ['CS140'] 6.0}, 'Spr2016') = CS155

('CS144', 'Win2016') = 0

(Request{['CS223A'] [] [] 4.0}, 'Aut2016') = None

('CS225A', 'Win2016') = 0

(Request{['CS144'] [] [] 6.0}, 'Spr2016') = None

(Request{['CS161'] ['Spr2016', 'Aut2016'] [] 10.0}, 'Win2016') = None

(Request{['CS140'] [] [] 2.0}, 'Spr2016') = None

('or', ((Request{['CS155'] [] ['CS140'] 6.0}, 'Spr2016'), 'CS140'), 'aggregated') = True

(Request{['CS223A'] [] [] 4.0}, 'Win2016') = CS223A

('sum', 'Win2016\_units', 0) = (0, 0)

('sum', 'Aut2016\_units', 5) = (7, 7)

('sum', 'Win2016\_units', 2) = (4, 7)

('or', ((Request{['CS225A'] [] ['CS223A'] 3.0}, 'Spr2016'), 'CS223A'), 'aggregated') = True

('sum', 'Aut2016\_units', 7) = (7, 7)

('sum', 'Win2016\_units', 4) = (7, 10)

(Request{['CS145'] [] [] 4.0}, 'Aut2016') = CS145

('sum', 'Aut2016\_units', 1) = (4, 4)

('sum', 'Win2016\_units', 6) = (10, 10)

('CS246', 'Win2016') = 0

(Request{['CS229'] ['Aut2016'] [] 6.0}, 'Spr2016') = None

('sum', 'Aut2016\_units', 3) = (4, 7)

('CS229', 'Win2016') = 0

('sum', 'Win2016\_units', 8) = (10, 10)

('CS155', 'Win2016') = 0

('sum', 'Win2016\_units', 10) = 10

('CS140', 'Aut2016') = 0

(Request{['CS144'] [] [] 6.0}, 'Aut2016') = CS144

(Request{['CS223A'] [] [] 4.0}, 'Spr2016') = None

('CS228', 'Win2016') = 4

('or', ((Request{['CS155'] [] ['CS140'] 6.0}, 'Aut2016'), 'CS140'), 0) = equals

('sum', 'Spr2016\_units', 9) = (10, 10)

('sum', 'Aut2016\_units', 9) = (10, 10)

('CS155', 'Spr2016') = 3

('CS229', 'Spr2016') = 0

('or', ((Request{['CS246'] [] ['CS145'] 10.0}, 'Win2016'), 'CS145'), 'aggregated') = False

(Request{['CS229'] ['Aut2016'] [] 6.0}, 'Win2016') = None

('CS229', 'Aut2016') = 3

('sum', 'Spr2016\_units', 5) = (0, 3)

(Request{['CS246'] [] ['CS145'] 10.0}, 'Aut2016') = None

(Request{['CS225A'] [] ['CS223A'] 3.0}, 'Aut2016') = None

('sum', 'Spr2016\_units', 7) = (6, 10)

(Request{['CS155'] [] ['CS140'] 6.0}, 'Aut2016') = None

(Request{['CS228'] [] [] 4.0}, 'Win2016') = CS228

('sum', 'Spr2016\_units', 1) = (0, 0)

('CS225A', 'Spr2016') = 3

('or', ((Request{['CS225A'] [] ['CS223A'] 3.0}, 'Aut2016'), 'CS223A'), 0) = equals

('CS225A', 'Aut2016') = 0

('CS145', 'Aut2016') = 4

('sum', 'Spr2016\_units', 3) = (0, 0)

('or', ((Request{['CS225A'] [] ['CS223A'] 3.0}, 'Aut2016'), 'CS223A'), 'aggregated') = True

(Request{['CS229'] ['Aut2016'] [] 6.0}, 'Aut2016') = CS229

('or', ((Request{['CS246'] [] ['CS145'] 10.0}, 'Spr2016'), 'CS145'), 0) = no

Here's the best schedule:

Quarter Units Course

Win2016 4 CS228

Win2016 3 CS223A

Win2016 3 CS140

Spr2016 3 CS155

Spr2016 3 CS225A

Spr2016 4 CS161

Aut2016 4 CS145

Aut2016 3 CS144

Aut2016 3 CS229