

AI Assignment-3

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Screenshots:

Interest is data-scientist and Grade is 7+

```
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % python soln3.py
Fact: Take DL course
Fact: Take ML course
Fact: Take DMG course
Fact: Probability and Statistics course
Fact: Participate in Academic Induction Activities
Fact: Participate in Student Council
Fact: Participate in Student senate
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % █
```

Interest is software engineer and Grade is 7+

```
((base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % python soln3.py
Fact: Python programming
Fact: Web Development
Fact: Data Structure and Algorithms
Fact: Participate in Academic Induction Activities
Fact: Participate in Student Council
Fact: Participate in Student senate
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % █
```

Interest is ML engineer and Grade is 7+

```
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % python soln3.py
Fact: take DL course
Fact: take ML course
Fact: take AI course
Fact: Participate in Academic Induction Activities
Fact: Participate in Student Council
Fact: Participate in Student senate
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % █
```

Interest is data-scientist and Grade is 7-

```
((base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % python soln3.py
Fact: Take DL course
Fact: Take ML course
Fact: Take DMG course
Fact: Probability and Statistics course
Fact: Participate in few Club events
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % █
```

Interest is software engineer and Grade is 7-

```
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % python soln3.py
Fact: Python programming
Fact: Web Development
Fact: Data Structure and Algorithms
Fact: Participate in few Club events
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 %
```

Interest is ML engineer and Grade is 7-

```
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 % python soln3.py
Fact: take DL course
Fact: take ML course
Fact: take AI course
Fact: Participate in few Club events
(base) abhinavsaurabh@Abhinavs-MacBook-Pro Assignment 3 %
```

I have implemented forwarding chaining in taking interest and their and accordingly given then the electives and extra-curricular activities. If they have less than 7 cgpa then fewer extra-curricular activities should be taken into consideration else they can do a lot of activities.

Codes

```
1 #Here we are importing the durable lang
2
3 #here imported the durang library
4 from durable.lang import *
5 #Further you can do the program with interests ,electives and extracurricular activities
6
7
8 #Here rules are made according to the interests and grades
9 with ruleset('interests'):
10     # will be triggered by 'interests' facts
11     #This is for the data-scientist with 7+ cgpa
12     @when_all((m.area == 'data-scientist') & (m.grades == '7+') )
13     def hci(c):
14         c.assert_fact('electives', { 'field': 'data' })
15         c.assert_fact('extra-curricular', { 'type': 'heavy' })
16
17     #This is for the software engineer with 7+ cgpa
18     @when_all((m.area == 'software-engineer') & (m.grades == '7+') )
19     def rob(c):
20         c.assert_fact('electives', { 'field': 'algorithms' })
21         c.assert_fact('extra-curricular', { 'type': 'heavy' })
22
23     #This is for the ML-engineer with 7+ cgpa
24     @when_all((m.area == 'ML-engineer') & (m.grades == '7+') )
25     def rob(c):
26         c.assert_fact('electives', { 'field': 'ai-ml' })
27         c.assert_fact('extra-curricular', { 'type': 'heavy' })
28
29     #This is for the data-scientist with 7- cgpa
30     @when_all((m.area == 'data-scientist') & (m.grades == '7-') )
31     def hci(c):
32         c.assert_fact('electives', { 'field': 'data' })
33         c.assert_fact('extra-curricular', { 'type': 'little' })
34
35     #This is for the software-engineer with 7- cgpa
36     @when_all((m.area == 'software-engineer') & (m.grades == '7-') )
37     def rob(c):
38         c.assert_fact('electives', { 'field': 'algorithms' })
39         c.assert_fact('extra-curricular', { 'type': 'little' })
40
41     #This is for the ML-engineer with 7- cgpa
42     @when_all((m.area == 'ML-engineer') & (m.grades == '7-') )
43     def rob(c):
44         c.assert_fact('electives', { 'field': 'ai-ml' })
45         c.assert_fact('extra-curricular', { 'type': 'little' })
46
47
48     @when_all(+m.subject)
49     def output(c):
50         print('Fact: {0} {1} {2}'.format(c.m.subject, c.m.predicate, c.m.object))
```

```

53 #Here are rules for the elective selection.
54 with ruleset('electives'):
55     #these electives are for the data scientist consideration.
56     @when_all((m.field == 'data'))
57     def data(d):
58         d.assert_fact({ 'subject': 'Probability and Statistics course' })
59         d.assert_fact({ 'subject': 'Take DMG course' })
60         d.assert_fact({ 'subject': 'Take ML course' })
61         d.assert_fact({ 'subject': 'Take DL course' })
62
63     #these electives are for the ML Engineer consideration.
64     @when_all((m.field == 'ai-ml'))
65     def ml(d):
66         d.assert_fact({ 'subject': 'take AI course' })
67         d.assert_fact({ 'subject': 'take ML course' })
68         d.assert_fact({ 'subject': 'take DL course' })
69
70     #these electives are for the ML Engineer consideration.
71     @when_all((m.field == 'algorithms'))
72     def algorithm(d):
73         d.assert_fact({ 'subject': 'Data Structure and Algorithms' })
74         d.assert_fact({ 'subject': 'Web Development' })
75         d.assert_fact({ 'subject': 'Python programming' })
76
77
78
79     @when_all(+m.subject)
80     def output(d):
81         print('Fact: {0}'.format(d.m.subject))
82
83 #Here are rules for the Extra-Curricular Activities
84 with ruleset('extra-curricular'):
85     #These are extra curricular activities for students with greater than 7 cgpa
86     @when_all((m.type == 'heavy'))
87     def ec(e):
88         e.assert_fact({ 'subject': 'Participate in Student senate'})
89         e.assert_fact({ 'subject': 'Participate in Student Council'})
90         e.assert_fact({ 'subject': 'Participate in Academic Induction Activities'})
91
92     #These are extra curricular activities for students with less than 7 cgpa
93     @when_all((m.type == 'little'))
94     def ec(e):
95         e.assert_fact({ 'subject': 'Participate in few Club events'})
96
97
98
99     @when_all(+m.subject)
100    def output(c):
101        print('Fact: {0}'.format(c.m.subject))
102

```