Here is what the output looks like for the Penalty Logic:

```
Welcome to PrefAgent!

Enter Attributes File Name: TestCase/myattr.txt

Enter Hard Constraints File Name: TestCase/myconstraints.txt

Choose the preference logic to use:
1. Penalty Logic
2. Qualitative Choice Logic
3. Exit

Your Choice: 1

You picked Penalty Logic
Enter Preferences File Name: TestCase/mypenalty.txt

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu
```

```
Your Choice: 1

o0 - ice-cream, beer, beef, bread, rice
o1 - ice-cream, beer, beef, bread, fries
o2 - ice-cream, beer, beef, salad, rice
o3 - ice-cream, beer, beef, salad, fries
o4 - ice-cream, beer, fish, bread, rice
o5 - ice-cream, beer, fish, bread, fries
o6 - ice-cream, beer, fish, salad, rice
o7 - ice-cream, beer, fish, salad, fries
o8 - ice-cream, wine, beef, bread, rice
o9 - ice-cream, wine, beef, bread, fries
o10 - ice-cream, wine, beef, salad, rice
o11 - ice-cream, wine, beef, salad, fries
o12 - ice-cream, wine, fish, bread, rice
o13 - ice-cream, wine, fish, bread, fries
o14 - ice-cream, wine, fish, salad, rice
o15 - ice-cream, wine, fish, salad, fries
o16 - cake, beer, beef, bread, rice
o17 - cake, beer, beef, bread, fries
o18 - cake, beer, beef, salad, rice
o19 - cake, beer, beef, salad, fries
o20 - cake, beer, fish, bread, rice
o21 - cake, beer, fish, bread, fries
o22 - cake, beer, fish, salad, rice
o23 - cake, beer, fish, salad, fries
o24 - cake, wine, beef, bread, rice
o25 - cake, wine, beef, bread, fries
o26 - cake, wine, beef, salad, rice
o27 - cake, wine, beef, salad, fries
o28 - cake, wine, fish, bread, rice
o29 - cake, wine, fish, bread, fries
o30 - cake, wine, fish, salad, rice
o31 - cake, wine, fish, salad, fries
```

```
Your Choice: 2

Yes, there are 10 feasible objects.

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 3
```

encoding	fish AND wine	wine OR cake	beer OR fish	salad AND rice	ice-cream OR fries	total penalty
o0	10	6	0	10	0	26
o1	10	6	0	10	0	26
o2	10	6	0	0	0	16
o3	10	6	0	10	0	26
o4	10	6	0	10	0	26
o5	10	6	0	10	0	26
o6	10	6	0	0	0	16
o7	10	6	0	10	0	26
o8	10	0	4	10	0	24
o9	10	0	4	10	0	24
o10	10	0	4	0	0	14
o11	10	0	4	10	0	24
o12	0	0	0	10	0	10
o13	0	0	0	10	0	10
o14	0	0	0	0	0	0
o15	0	0	0	10	0	10
o16	10	0	0	10	2	22
o17	10	0	0	10	0	20
o18	10	0	0	0	2	12
o19	10	0	0	10	0	20
o20	10	0	0	10	2	22
o21	10	0	0	10	0	20
o22	10	0	0	0	2	12
o23	10	0	0	10	0	20
o24	10	0	4	10	2	26
o25	10	0	4	10	0	24
o26	10	0	4	0	2	16
o27	10	0	4	10	0	24
o28	0	0	0	10	2	12
o29	0	0	0	10	0	10
o30	0	0	0	0	2	2
o31	0	0	0	10	0	10

```
Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 55

Please choose a valid option

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 4

Two randomly selected feasible objects are o13 and o12, and o13 and o12 are equal.

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 5

All optimal objects: o14.
```

Qualitative Logic:

```
Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 6

Going back to previous menu...

Choose the preference logic to use:
1. Penalty Logic
2. Qualitative Choice Logic
3. Exit
```

```
Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 1

o0 - ice-cream, beer, beef, bread, rice
o1 - ice-cream, beer, beef, bread, fries
o2 - ice-cream, beer, beef, salad, rice
o3 - ice-cream, beer, beef, salad, fries
o4 - ice-cream, beer, fish, bread, rice
o5 - ice-cream, beer, fish, bread, fries
o6 - ice-cream, beer, fish, salad, rice
o7 - ice-cream, beer, fish, salad, fries
o8 - ice-cream, wine, beef, bread, rice
o9 - ice-cream, wine, beef, bread, fries
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o15 - ice-cream, wine, fish, salad, fries
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o17 - cake, beer, beef, bread, fries
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o23 - cake, beer, fish, salad, fries
o24 - cake, wine, beef, bread, rice
o25 - cake, wine, beef, bread, fries
o26 - cake, wine, beef, salad, rice
o27 - cake, wine, beef, salad, fries
o28 - cake, wine, fish, bread, rice
o29 - cake, wine, fish, bread, fries
o30 - cake, wine, fish, salad, rice
o31 - cake, wine, fish, salad, fries
```

```
Your Choice: 2

Yes, there are 10 feasible objects.

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 3

There is no table

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice:
```

```
Your Choice: 4

Not working...

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 5

Not working...

Choose the reasoning task to perform:
1. Encoding
2. Feasibility Checking
3. Show the Table
4. Exemplification
5. Omni-optimization
6. Back to previous menu

Your Choice: 6

Going back to previous menu...

Choose the preference logic to use:
1. Penalty Logic
2. Qualitative Choice Logic
3. Exit

Your Choice: 3

Exiting...
```