

This is how the program looks when you start it.

To begin you can either manually enter the attributes, constraints, and preferences, or you can load each field with pre-written files.

The screenshot shows a window titled "AI Project 3 (N01223646)". It contains three main sections for user input, each with a "Load" button circled in red:

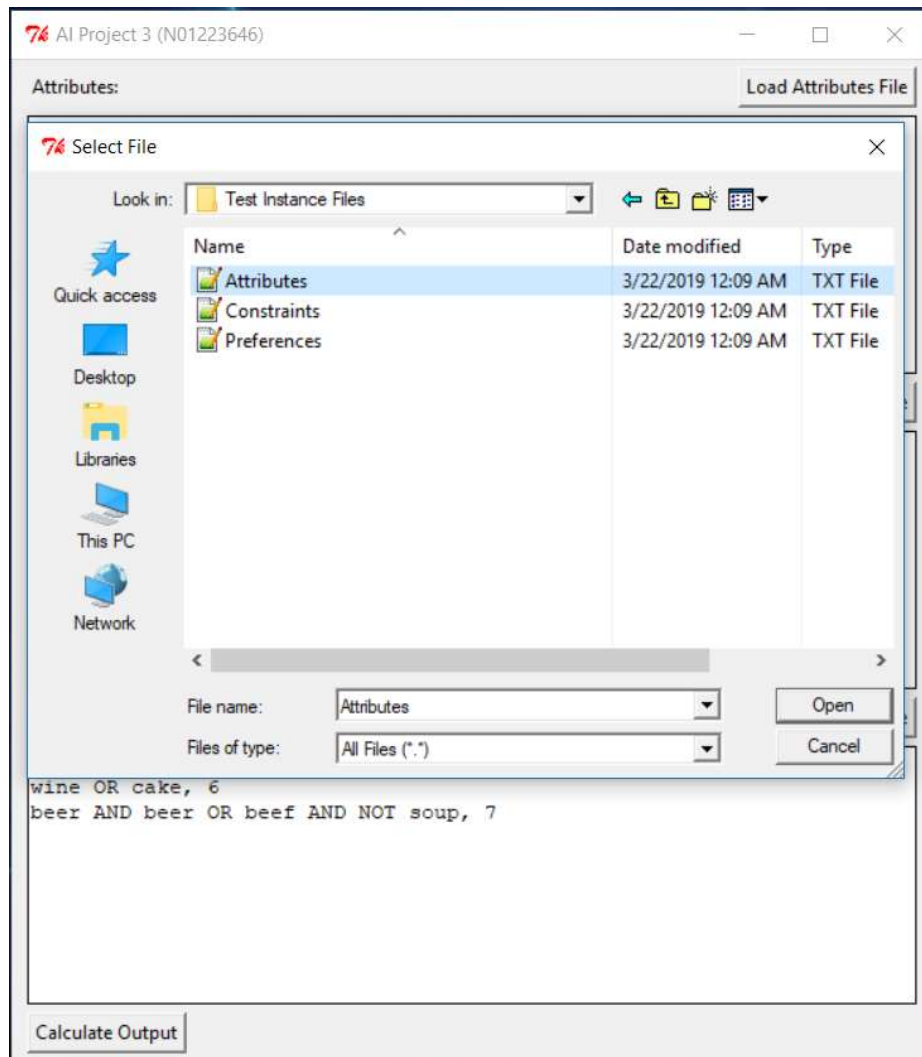
- Attributes:** The text area contains:
`appetizer: soup, salad`
`entree: beef, fish`
`drink: beer, wine`
`dessert: cake, ice-cream`
The button is labeled "Load Attributes File".
- Constraints:** The text area contains:
`NOT soup OR NOT beer`
`NOT soup OR NOT wine`
The button is labeled "Load Constraints File".
- Preferences:** The text area contains:
`fish AND wine, 10`
`wine OR cake, 6`
`beer AND beer OR beef AND NOT soup, 7`
The button is labeled "Load Preferences File".

At the bottom of the window is a button labeled "Calculate Output".

Start by loading text files containing the desired input into the respective fields.

Michael Wilson (N01223646)
AI Project 3

This dialog box will appear and prompt you to select a file. Choose the desired file and click “Open.”



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AI Project 3

Here the program is loaded with my test instance.

Next you will click “Calculate Output” to generate the four desired outputs of the project. The program may take some time to calculate depending on the input. Please be patient.

AI Project 3 (N01223646)

Attributes: Load Attributes File

ComputerType: Desktop, Laptop
SelfMade: SelfMade, NotSelfMade
Size: Large, Small
Cooling: Fans, Liquid
OperatingSystem: Windows, Mac
Make: ASUS, MSI
RAM: 8GB, 16GB
CPU: i5, i7
GraphicsCard: NVIDIA, Intel
Storage: HDD, SSD

Constraints: Load Constraints File

Intel OR i7
NOT Laptop OR Large
NOT Mac AND NOT Mac
ASUS OR Liquid
SSD AND 16GB
SelfMade AND NOT NotSelfMade

Preferences: Load Preferences File

i5 OR HDD, 4
Liquid AND ASUS, 3
Liquid AND MSI, 5
NVIDIA AND i7, 7
Large AND Desktop, 3
Windows AND NOT Mac, 69

Calculate Output

Click to calculate the four desired outputs based on the current input.

Once the calculations are made, the four outputs will be displayed in a separate window. In this case, these outputs correspond to my test instance as shown previously.

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AI Project 3 (N01223646)
Satisfiable

TWO OBJECTS:
{Desktop,SelfMade,Small,Fans,Windows,ASUS,16GB,i7,NVIDIA,SDD,(3)} <-- {Desktop,SelfMade,Large,Liquid,Windows,ASUS,16GB,i7,Intel,SDD,(7)}

OPTIMAL OBJECT:
{Desktop,SelfMade,Small,Liquid,Windows,ASUS,16GB,i7,Intel,SDD,(3)}

ALL OPTIMAL OBJECTS:
{Desktop,SelfMade,Small,Liquid,Windows,ASUS,16GB,i7,Intel,SDD,(3)}
{Desktop,SelfMade,Small,Fans,Windows,ASUS,16GB,i7,Intel,SDD,(3)}
{Desktop,SelfMade,Small,Liquid,Windows,MSI,16GB,i7,Intel,SDD,(3)}
{Desktop,SelfMade,Small,Liquid,Windows,ASUS,16GB,i5,Intel,SDD,(3)}
{Desktop,SelfMade,Small,Liquid,Windows,MSI,16GB,i5,Intel,SDD,(3)}
{Desktop,SelfMade,Small,Fans,Windows,ASUS,16GB,i5,Intel,SDD,(3)}
{Desktop,SelfMade,Small,Liquid,Windows,ASUS,16GB,i7,NVIDIA,SDD,(3)}
{Desktop,SelfMade,Small,Fans,Windows,ASUS,16GB,i7,NVIDIA,SDD,(3)}
{Desktop,SelfMade,Large,Liquid,Windows,MSI,16GB,i7,NVIDIA,SDD,(3)}
{Desktop,SelfMade,Small,Liquid,Windows,MSI,16GB,i7,NVIDIA,SDD,(3)}
{Laptop,SelfMade,Large,Liquid,Windows,ASUS,16GB,i7,Intel,SDD,(3)}
{Laptop,SelfMade,Large,Fans,Windows,ASUS,16GB,i7,Intel,SDD,(3)}
{Laptop,SelfMade,Large,Liquid,Windows,ASUS,16GB,i7,NVIDIA,SDD,(3)}
{Laptop,SelfMade,Large,Fans,Windows,ASUS,16GB,i7,NVIDIA,SDD,(3)}
{Laptop,SelfMade,Large,Liquid,Windows,ASUS,16GB,i5,Intel,SDD,(3)}
{Laptop,SelfMade,Large,Fans,Windows,ASUS,16GB,i5,Intel,SDD,(3)}
{Laptop,SelfMade,Large,Liquid,Windows,MSI,16GB,i7,Intel,SDD,(3)}
{Laptop,SelfMade,Large,Liquid,Windows,MSI,16GB,i7,NVIDIA,SDD,(3)}
{Laptop,SelfMade,Large,Liquid,Windows,MSI,16GB,i5,Intel,SDD,(3)}

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This is the format of an object.

{Desktop,SelfMade,Large,Liquid,Windows,ASUS,16GB,i7,Intel,SDD,(7)}

Attributes are separated
by commas.

Total penalty value of
the object.

The relationship between two objects is denoted by:

- > Meaning the right object is preferred over the left.
- <-- Meaning the left object is preferred over the right.
- = Meaning the objects are equivalent.

~ Thank you.