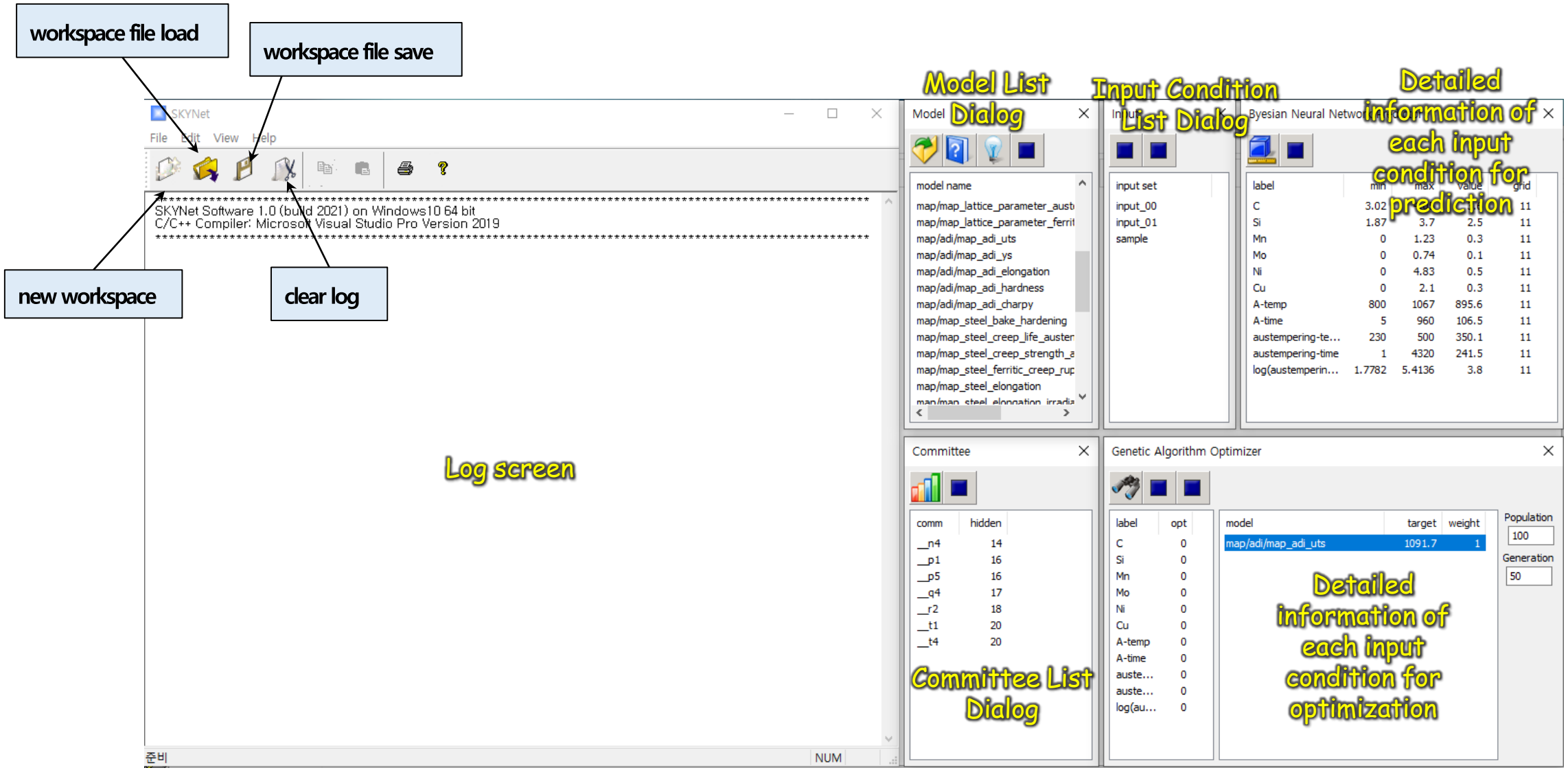
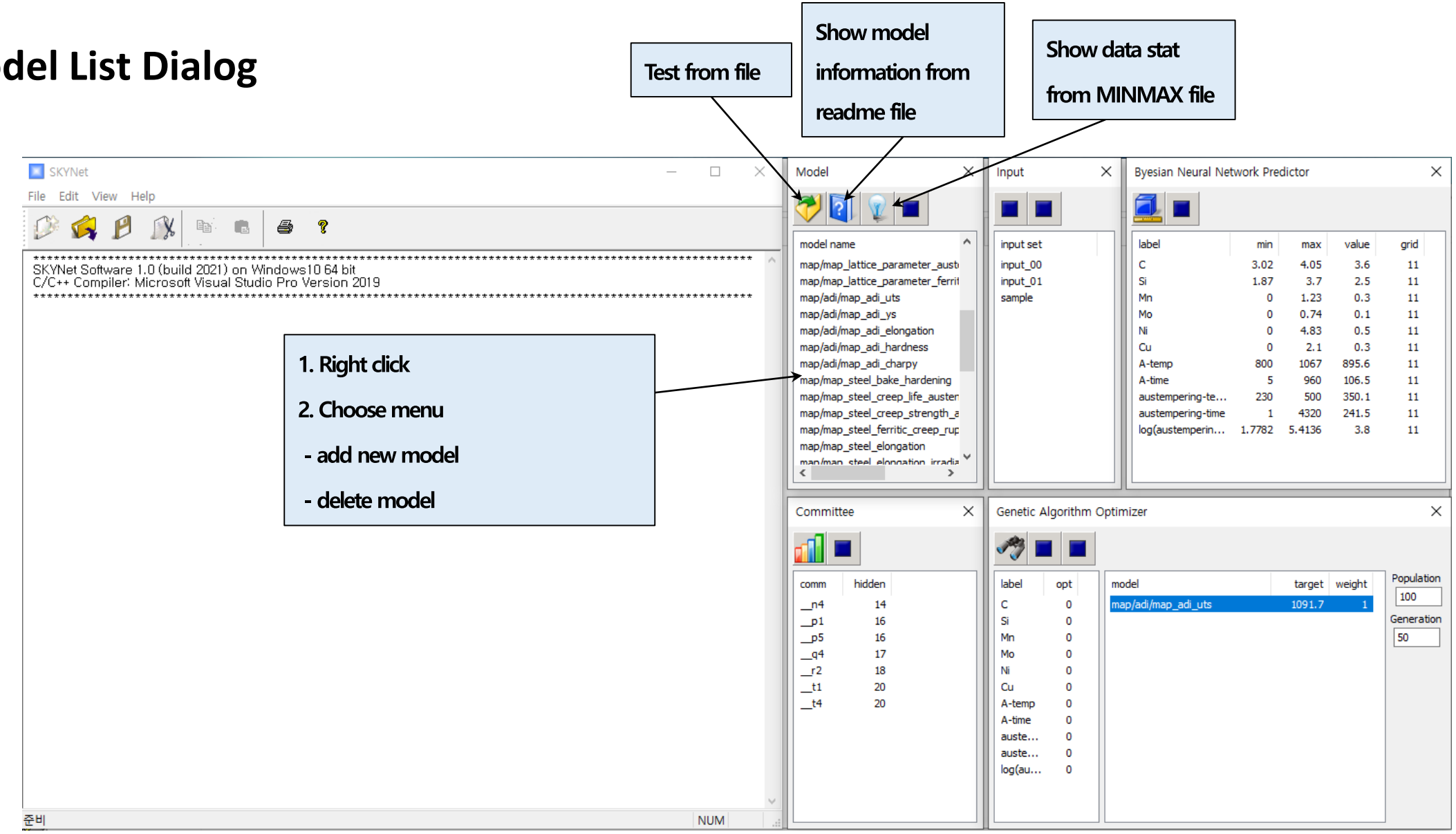
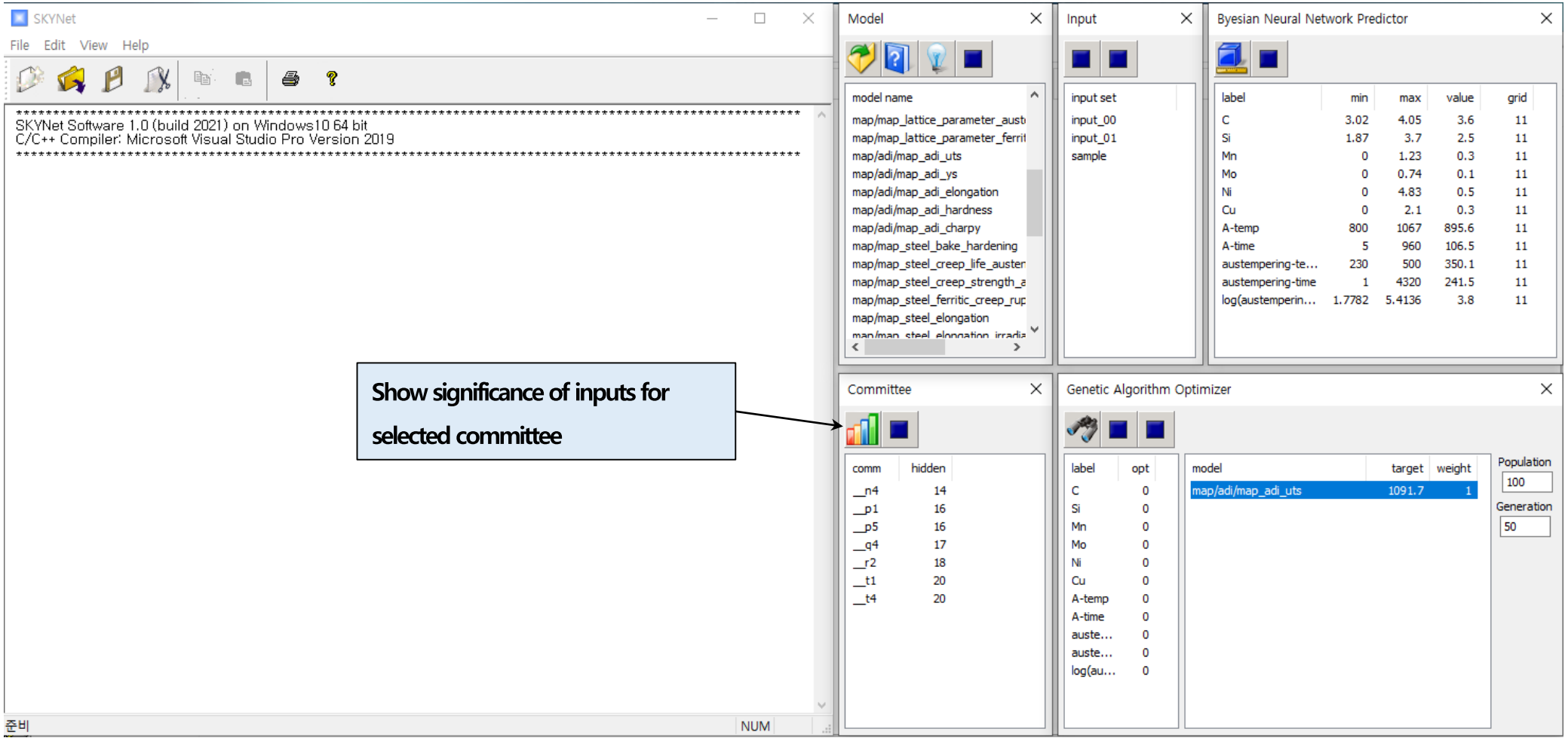

workspace file load
workspace file save
new workspace
clear log
Log screen
Model List Dialog
Input Condition List Dialog
Detailed information of each input condition for prediction
Committee List Dialog
Detailed information of each input condition for optimization
SKYNet
File Edit View Help
SKYNet Software 1.0 (build 2021) on Windows10 64 bit
C/C++ Compiler: Microsoft Visual Studio Pro Version 2019
준비
NUM
Model
model name
map/map_lattice_parameter_aust
map/map_lattice_parameter_ferrit
map/adi/map_adi_uts
map/adi/map_adi_ys
map/adi/map_adi_elongation
map/adi/map_adi_hardness
map/adi/map_adi_charpy
map/map_steel_bake_hardening
map/map_steel_creep_life_auster
map/map_steel_creep_strength_a
map/map_steel_ferritic_creep_rup
map/map_steel_elongation
input set
input_00
input_01
sample
Byesian Neural Network
label min max value grid
C 3.02 11
Si 1.87 3.7 2.5 11
Mn 0 1.23 0.3 11
Mo 0 0.74 0.1 11
Ni 0 4.83 0.5 11
Cu 0 2.1 0.3 11
A-temp 800 1067 895.6 11
A-time 5 960 106.5 11
austempering-te... 230 500 350.1 11
austempering-time 1 4320 241.5 11
log(austemperin... 1.7782 5.4136 3.8 11
Committee
comm hidden
__n4 14
__p1 16
__p5 16
__q4 17
__r2 18
__t1 20
__t4 20
Genetic Algorithm Optimizer
label opt
C 0
Si 0
Mn 0
Mo 0
Ni 0
Cu 0
A-temp 0
A-time 0
auste... 0
auste... 0
log(au... 0
model target weight
map/adi/map_adi_uts 1091.7 1
Population
100
Generation
50

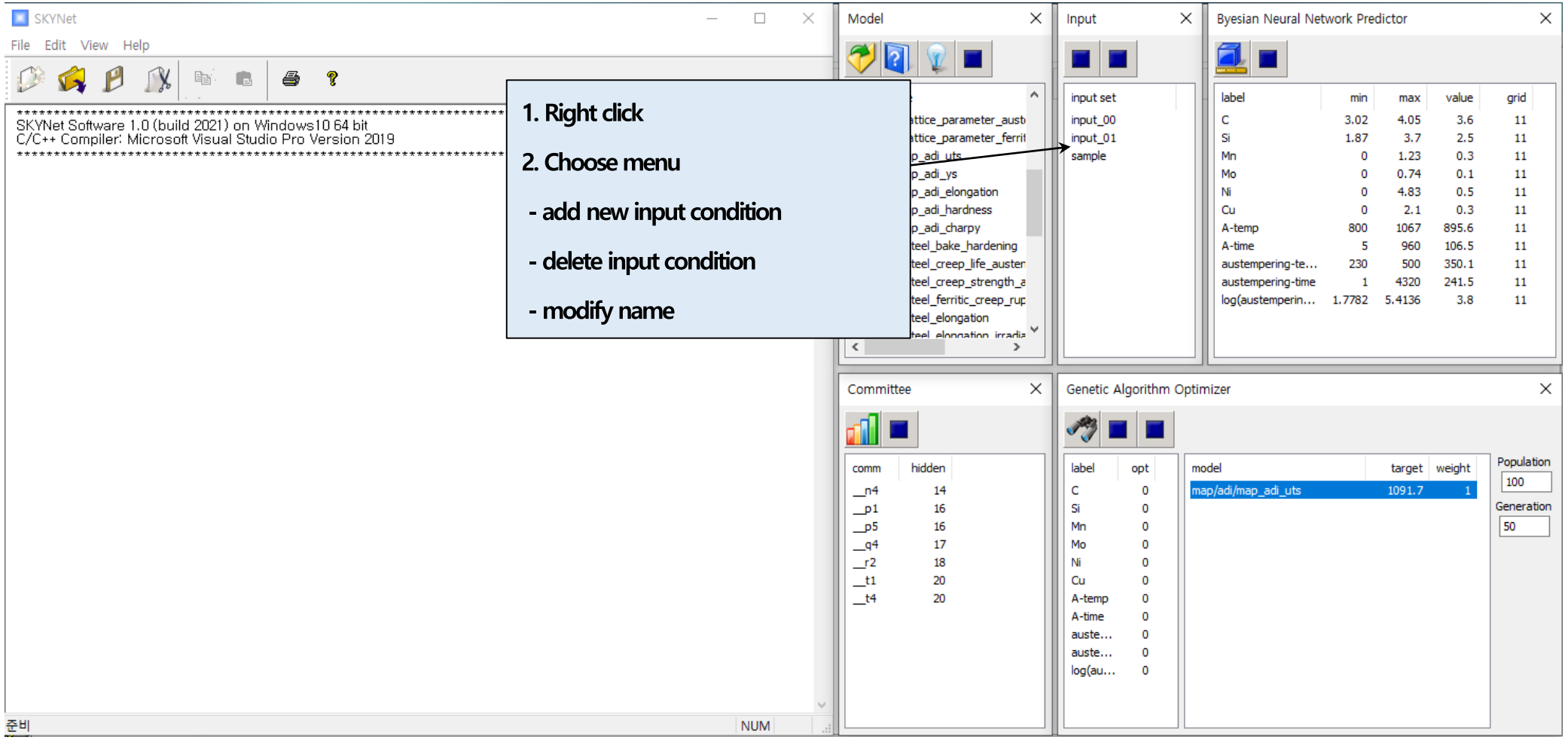
Model List Dialog



Committee List Dialog



Input List Dialog

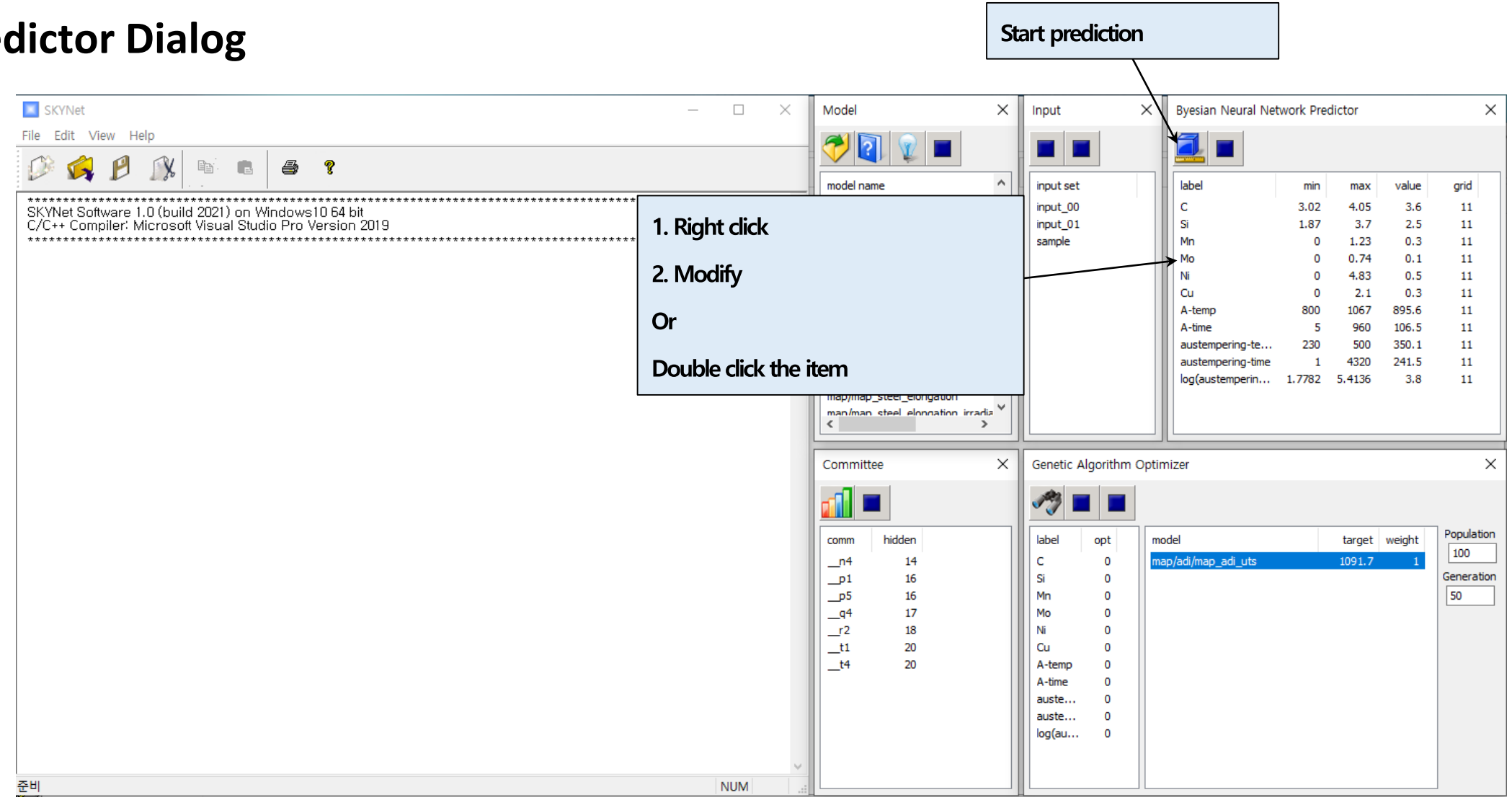


- **Each input condition stores conditions for predictor and optimizer.**

- Predictor : min, max, pivot value and step size of input variables.

- Optimizer : whether to optimize input variables, target models, target values, weights for norm calculation

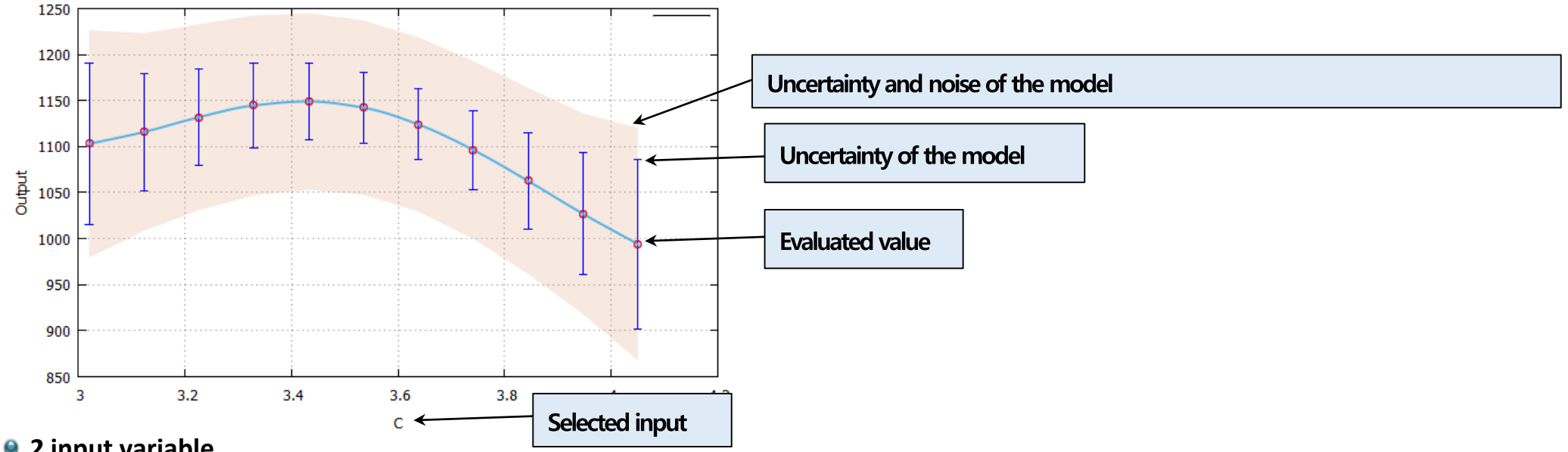
Predictor Dialog



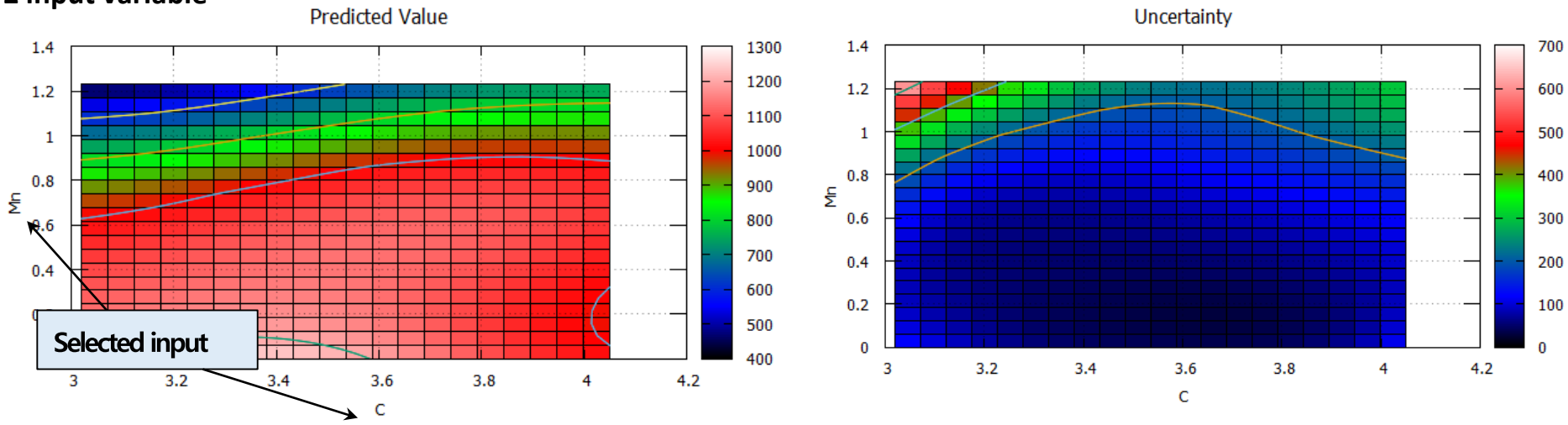
- Evaluate the value by changing the selected variable from “min” to “max” based on the “value” of the input variable.

  - 1 input variable selected : 11 input sets
  - 2 input variables selected : 11 x 11 input sets
  - 3 input variables selected : 11 x 11 x 11 input sets

- **1 input variable**

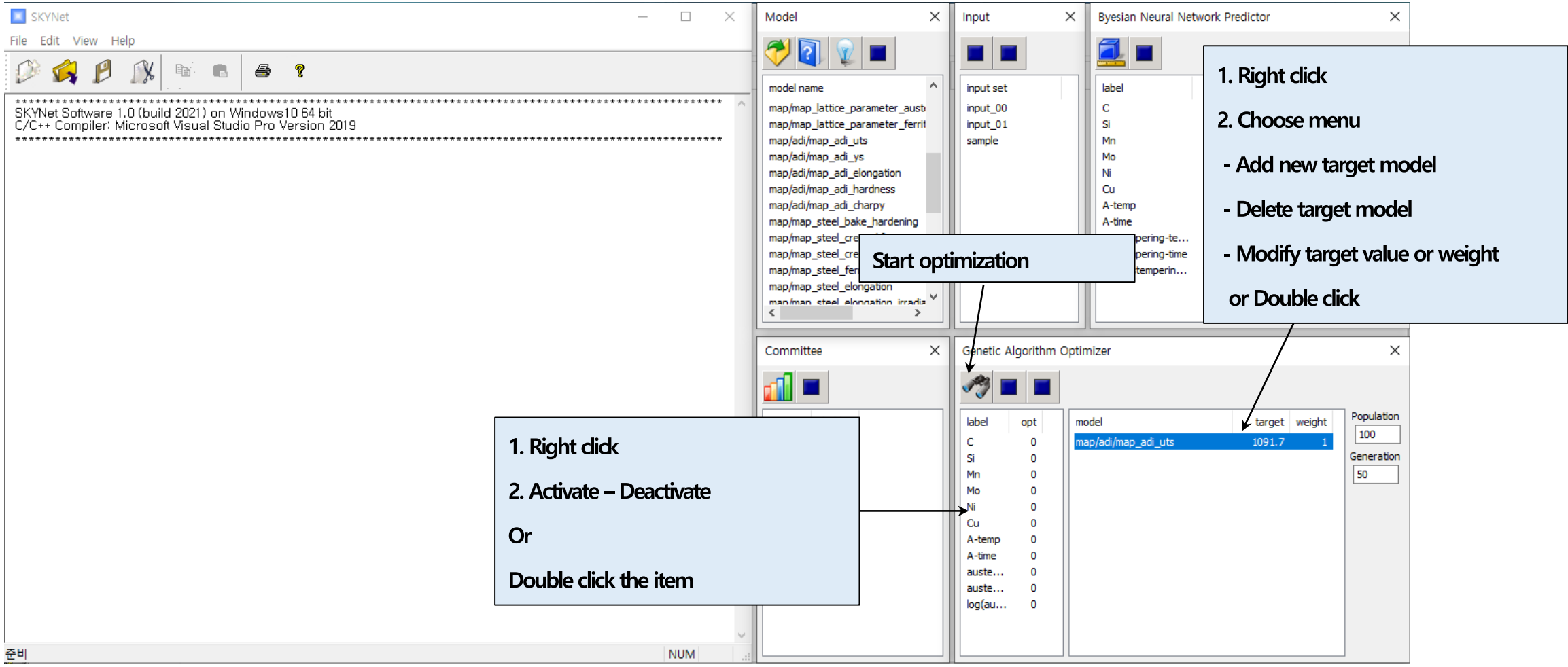


- **2 input variable**



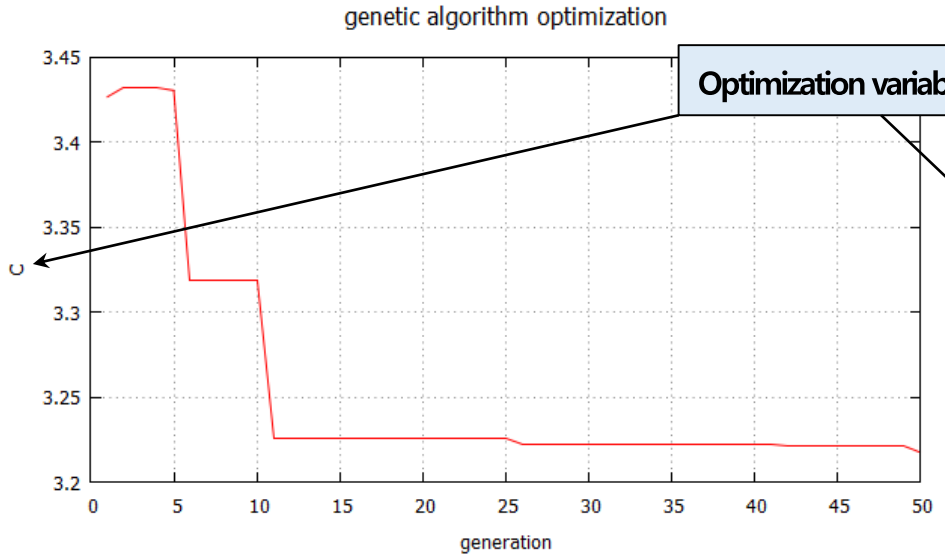
- **More than 3 input variable : calculation results are stored in CSV file.**

Optimizer Dialog

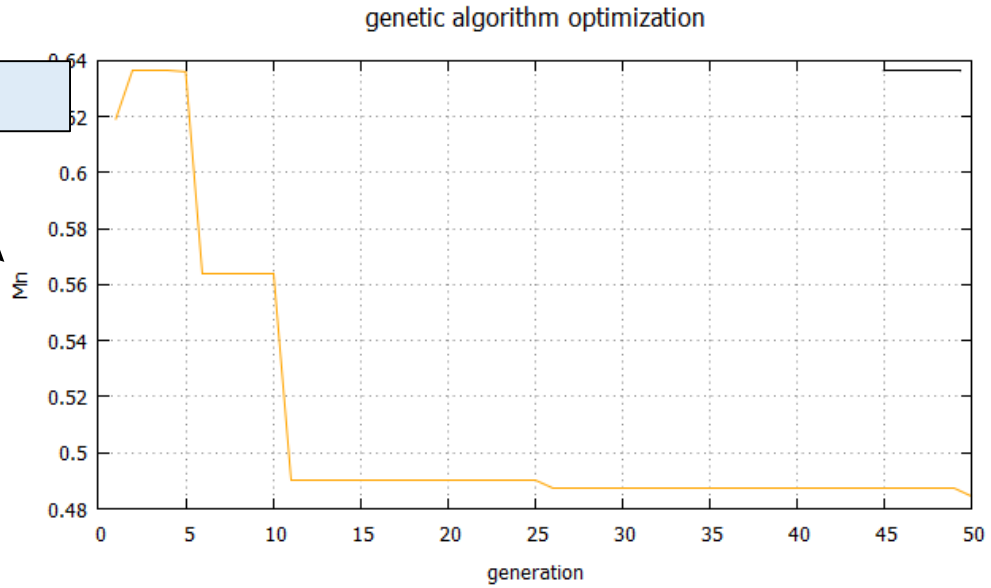


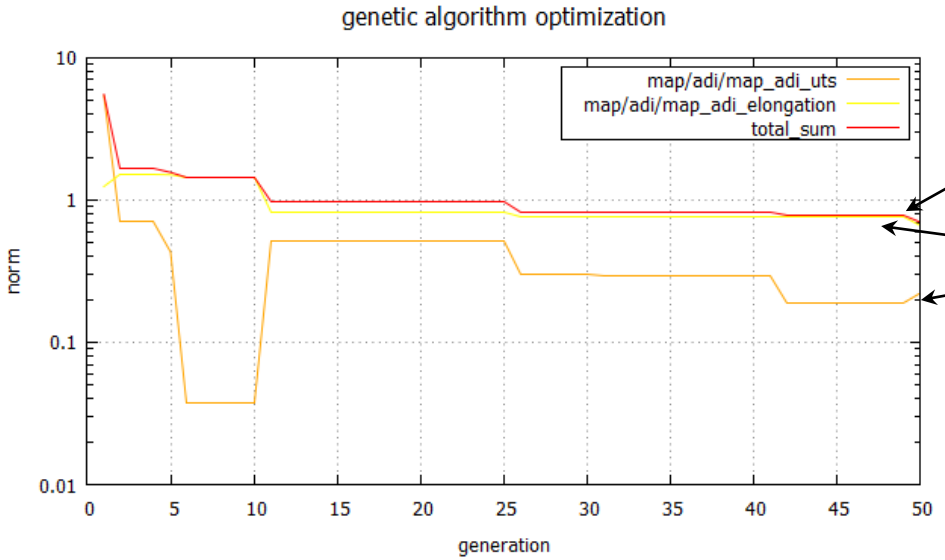
- Find the input variable value for each target model to be closest to the target value
  - optimization range : min, max, value in predictor dialog)
  - Distance : Σ [weight x (calculated – target value)] ^{2}
- Optimized input conditions are automatically added to the input dialog.

Optimizer Dialog



Optimization variable





Change of total distance according to each generation step

Distance between target and calculate value of each model