

Overview (초기 화면)

Scheduling, Everywhere [DEMO]
Schedule Optimization Modeling Agent (Powered by GPT-5.2)

Chat

I need a MiniZinc scheduling model for my factory.
I'm uploading my data files. Please read them and create the model.

My Factory: 10 (Injection Phusion) Production

Send

> Data Files (3 loaded)

View System Prompt ▾

Save

session_20260113_233750 ▾

New Chat

Load

MiniZinc Output

model.mzn data.dzn

1 % model.mzn will appear here...

Download .mzn

Copy .mzn

Left Column

- User Prompt 전송
- Data 업로드
- System Prompt 조회
- Chat save/load/clear

Right Column

- 최적화 모델링 결과 확인
 - model.mzn: 최적화 문제 구조 정의
 - data.mzn: 실제 데이터 값을 Data로부터 정의

Left Column

User prompt 입력 및 전송

Data upload 및 preview

System prompt 조회 및 대화 저장

Chat

I need a MiniZinc scheduling model for my factory.
I'm uploading my data files. Please read them and create the model.

Mr Esteban: ID (Injection Dhulen) Production

Send

▼ Data Files (3 loaded)

✓ 3 file(s) ready

▼ Preview: demand.csv

```
MOLD, SIZE, COLOR, QTY, DUE_DATE
MS252801-1, 10, BIP024_LTIRONORE, 36, 2024-01-02
MS252801-1, 10T, BIP024_LTIRONORE, 30, 2024-01-02
MS252801-1, 11, BIP024_LTIRONORE, 18, 2024-01-02
MS252801-1, 11T, BIP024_LTIRONORE, 18, 2024-01-02
MS252801-1, 12, BIP024_LTIRONORE, 18, 2024-01-02
```

> Preview: molds.csv

> Preview: working_dates.csv

View System Prompt ▼

Save

session_20260113_233750 ▼

New Chat

Load

Left Column

System prompt 조회시

System Prompt:

You are an optimization modeling assistant that converts natural language problem descriptions into MiniZinc code.

UI Context
The user is interacting through a split-screen interface:
- LEFT COLUMN: Chat conversation with you
- RIGHT COLUMN: Generated MiniZinc files (model.mzn and data.dzn)

After you generate code, the user can see it displayed on the right side.
When they ask follow-up questions like "explain line 15" or "what does Rule 3 do?", they are referring to the code visible on the right column.
You can reference and explain your generated code naturally in conversation.

Your Task
Read the user's factory scheduling problem and uploaded data files.
Generate a working MiniZinc model.

Output Format

Use these exact code fence tags for extraction:
- Model file: use ```mzn to open and ``` to close
- Data file: use ```dzn to open and ``` to close

1. model.mzn
Organize with clear sections:

PARAMETERS (Given Information)
- Use `int`, `bool`, `array[...] of int`, etc.
- These are fixed values from the user's description and uploaded files
- Examples: number of machines, order quantities, mold inventory, cycle times

DECISION VARIABLES (What to Decide)
- Use `var int`, `var bool`, `array[...] of var int`, etc.
- These are unknowns that the solver will determine
- Examples: production quantity per (order, day, shift, side)

CONSTRAINTS (Rules)
- Translate each business rule into MiniZinc constraints
- Add comments explaining which rule each constraint implements

OBJECTIVE (Goal)
- What to minimize or maximize

View System Prompt ^

Save

session_20260113_233750

New Chat

Load

Right Column

수식 모델링 결과 확인

MiniZinc Output

model.mzn data.dzn

```

1 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
2 % model.mzn -- IP (Injection Phylon) scheduling to MINIMIZE machines used
3 %
4 % Key modelling choices (kept solvable / linear):
5 % - Time is discretized by (working day d, shift s). Each machine has 2 sides.
6 % - Each order line i (mold,size,color,qty,due) must be fully produced no later
7 %   than its latest production day (due - leadtime working days).
8 % - Rule 1: one color per (machine,side,day,shift).
9 % - Rule 4 & 5: mold slots per side and global mold inventory are enforced by
10 %   allocating an integer number of "mold slots" of each size to each side-shift.
11 % - Production capacity on a side-shift for a size = (allocated molds)*480/CT
12 %   in units (rounded down via integer floor constants).
13 % - Changeover times (Rule 2 & 3) are approximated with between-shift changes:
14 %   * cleaning if color differs from previous shift on same side
15 %   * mold-change minutes based on absolute change in allocated mold counts
16 %   Within-shift multiple changeovers are NOT explicitly sequenced in this model.
17 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
18
19 include "globals.mzn";
20
21 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
22 %% PARAMETERS (Given Info) %%
23 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
24
25 int: SidesPerMachine = 2;
26 int: SlotsPerSide = 10;
27
28 int: ShiftsPerDay = 3;
29 set of int: SHIFTS = 1..ShiftsPerDay;
30
31 int: MinutesPerShift = 480;
32
33 int: CleanMinutes = 120;      % Rule 2
34 int: MoldChangeMinutes = 15; % Rule 3
35
36 int: LeadTimeWorkDays = 3;    % "IP must be ready before assembly" buffer
37
38 % ----- From data -----
39 int: NOrders;
40 int: NSizes;
41 int: NColors;
42
43 set of int: ORDERS = 1..NOrders;
44 set of int: SIZES = 1..NSizes;
45 set of int: COLORS = 1..NColors;
46
47 array[ORDERS] of int: order_size;      % 1..NSizes
48 array[ORDERS] of int: order_color;    % 1..NColors

```

Usage

Scheduling, Everywhere [DEMO]

Schedule Optimization Modeling Agent (Powered by GPT-5.2)

Chat

20240110, N

1. 문제설명 (user prompt)를 전송하고 LLM의 응답을 받음



```
% model.mzn -- IP (Injection Phylon) scheduling to MINIMIZE machines used
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%   * mold-change minutes based on absolute change in allocated mold counts
```

3. 최적화 모델링 draft를 가지고 이후 소통 가능

Send

> Data Files (3 loaded)

MiniZinc Output

model.mzn data.dzn

2. LLM의 응답 중 최적화 모델링만 따로 display

```
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28 int: ShiftsPerDay = 3;
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31 int: MinutesPerShift = 480;
```