To create a random auto-scheduler in Google Sheets using formulas, we can make use of the RAND, RANDBETWEEN, INDEX, and ARRAYFORMULA functions. Below is a step-by-step guide on how to achieve this:

### Step 1: Set Up Your Google Sheet

1. \*Create a new Google Sheet.\*

2. \*Set up the following sheets:\*

- \*Sheet1: Teachers\*

- \*Sheet2: Time Slots\*

- \*Sheet3: Days\*

- \*Sheet4: Assignments\*

### Step 2: Populate Sheets with Data

1. \*Sheet1: Teachers\*

A1: Teacher

A2: Teacher 1

A3: Teacher 2

A4: Teacher 3

2. \*Sheet2: Time Slots\*

A1: Time Slot

A2: 5 PM - 6 PM

A3: 6 PM - 7 PM

A4: 7 PM - 8 PM

A5: 8 PM - 9 PM

A6: 9 PM - 10 PM

3. \*Sheet3: Days\*

A1: Day

A2: Monday

A3: Tuesday

A4: Wednesday

A5: Thursday

A6: Friday

A7: Saturday

A8: Sunday

### Step 3: Create a Sheet for Assignments

1. \*Sheet4: Assignments\*

A1: Student

B1: Teacher

C1: Time Slot

D1: Day

E1: Random Index

### Step 4: Use Formulas to Assign Teachers and Time Slots

1. \*Add students in column A of the Assignments sheet (e.g., Sheet4):\*

A2: Student 1

A3: Student 2

A4: Student 3

2. \*Generate random index for each student in column E:\*

E2: =RANDBETWEEN(1, COUNTA(Sheet1!A2:A))

E3: =RANDBETWEEN(1, COUNTA(Sheet1!A2:A))

E4: =RANDBETWEEN(1, COUNTA(Sheet1!A2:A))

3. \*Assign random teachers in column B:\*

B2: =INDEX(Sheet1!A2:A, E2)

B3: =INDEX(Sheet1!A2:A, E3)

B4: =INDEX(Sheet1!A2:A, E4)

4. \*Generate random index for time slots and days:\*

E2: =RANDBETWEEN(1, COUNTA(Sheet2!A2:A) \* COUNTA(Sheet3!A2:A))

E3: =RANDBETWEEN(1, COUNTA(Sheet2!A2:A) \* COUNTA(Sheet3!A2:A))

E4: =RANDBETWEEN(1, COUNTA(Sheet2!A2:A) \* COUNTA(Sheet3!A2:A))

5. \*Assign random time slots in column C:\*

C2: =INDEX(Sheet2!A2:A, MOD(E2 - 1, COUNTA(Sheet2!A2:A)) + 1)

C3: =INDEX(Sheet2!A2:A, MOD(E3 - 1, COUNTA(Sheet2!A2:A)) + 1)

C4: =INDEX(Sheet2!A2:A, MOD(E4 - 1, COUNTA(Sheet2!A2:A)) + 1)

6. \*Assign random days in column D:\*

D2: =INDEX(Sheet3!A2:A, INT((E2 - 1) / COUNTA(Sheet2!A2:A)) + 1)

D3: =INDEX(Sheet3!A2:A, INT((E3 - 1) / COUNTA(Sheet2!A2:A)) + 1)

D4: =INDEX(Sheet3!A2:A, INT((E4 - 1) / COUNTA(Sheet2!A2:A)) + 1)

### Step 5: Ensure No Conflicts

To avoid conflicts, additional steps with unique checking are necessary, which would be difficult to achieve purely with formulas. A simple conflict check can be implemented manually by visually inspecting the assignments.

### Optional: Use ARRAYFORMULA for Automatic Expansion

If you prefer to automatically handle multiple students, you can use ARRAYFORMULA to apply the formula to a range of cells.

1. \*In columns B, C, and D:\*

B2: =ARRAYFORMULA(INDEX(Sheet1!A2:A, RANDBETWEEN(1, COUNTA(Sheet1!A2:A))))

C2: =ARRAYFORMULA(INDEX(Sheet2!A2:A, MOD(RANDBETWEEN(1, COUNTA(Sheet2!A2:A) \* COUNTA(Sheet3!A2:A)) - 1, COUNTA(Sheet2!A2:A)) + 1))

D2: =ARRAYFORMULA(INDEX(Sheet3!A2:A, INT((RANDBETWEEN(1, COUNTA(Sheet2!A2:A) \* COUNTA(Sheet3!A2:A)) - 1) / COUNTA(Sheet2!A2:A)) + 1))

By following these steps, you can set up a random auto-scheduler in Google Sheets using formulas. This approach uses random number generation to assign teachers, time slots, and days to students. For more sophisticated conflict checking, a script-based approach would be more suitable.