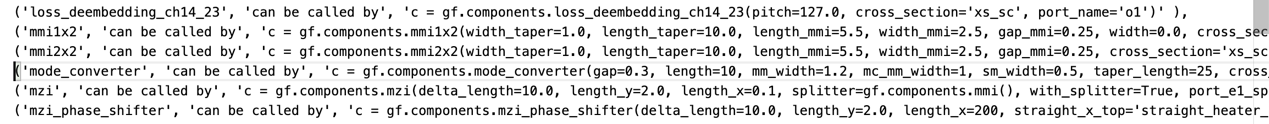
Steps for drawing a device from the user database

1. Given the user input, find the parameters of the device in the SQL database
2. From the parameters, the code will check whether the parameters are the same as the default values in GDSfactory, if so, return to step 1. (Note that right now the code only checks whether all the parameters are the default values, which leaves room for mistakes because a device with some default parameters will be able to pass the test)
3. The llm will generate the code that draws it
4. Check whether the numbers in the code match the numbers from the SQL database, if not, return to step 1
5. If the user specifies a certain parameter, the llm will modify the code according to the user input
6. Execute the code, if failed, return to step 1,

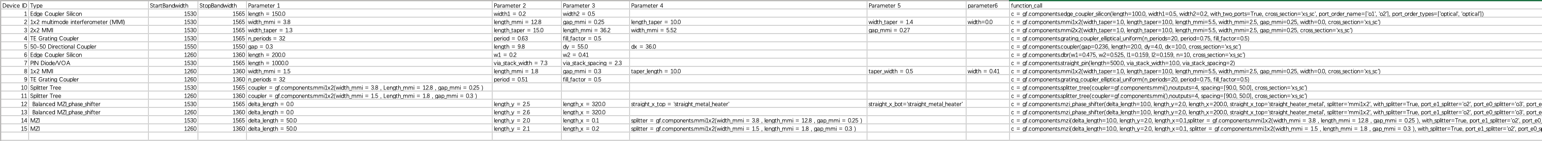
The full code is in this document: llm\_sql\_vector\_final.ipynb

Requirements to run the code properly:

1. Python 3.10 or Python 3.11 to support GDSfactory
2. A folder of context information of GDSfactory



1. A .db SQL database



Note that in order to run the code correctly, the database has to be in the format of the above one, each entry represents a device and each column is a parameter of that device. The last column should be the default function in GDSfactory and the operating wavelength range has to be provided in the format of StartBandwidth ~ StopBandwidth.

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图形用户界面, 应用程序, 表格

描述已自动生成