Metaprogramming in SAS
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Parameterized Macro to generate SAS Code (using MPRINT and MFILE and other techniques)
Generated SAS code in turn produces outputs such as Safety TLFs.

Solution:

Code Generation

SAS Macro
```sas
%include "E:\Project\test_macro.sas";
options mprint mfile;
%report_macro {Parameter1= X, Parameter2= Y, Parameter3= Z };
options nonprint nonfile;
```

Submission Ready Code

Include Setup Macro
```sas
data null ;
file mprint ;
put &cons "\&setup.sas" ;
put &cons &mgroup &setup (path=r(\) &cons2 ) ;
run
```

Comments

Indentation
```sas
%indentcode {  programpath = &folderpath ,
programname = &filename ,
filepath = &folderpath\&keywords.csv,
space = 2 ,
linelen = 80 };
```

Illustration:

![Diagram of code generation process]

Conclusion: Submission ready SAS code can be generated from Macro, instead of hand-programmed.
Advantages: productivity↑, consistency↑, accuracy↑, skill dependency↓