```sas
* ***********************************************************************
* Katrin Auspurg & Thomas Hinz
* Accompanying material for: Factorial Survey Experiments.
* SAGE,  Series: Quantitative Applications in the Social Sciences No. 175,
* Thousand Oaks, CA: SAGE
*
* SAS JOB TP PROUDUCE A D-EFFICIENT SAMPLE
* (fairness of earnings example:
* 120 vignettes, with orthogonalization of some interaction terms/Resolution IV design)
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// #1) Installation of Macros

* Bevor running the program, you have to install the macros written by Warren Kuhfeld:
* %mktruns, %mktex, %mktblock. See Kuhfeld 2010 or the SAS websites for details.


************************************************************************
// #2  Specify working directory („Library") *

* PLEASE CHANGE THE LIBRARY RESP. WORKING DIRECTORY!!! (LIBNAME "working directory" );

LIBNAME VIGSAS "C:\Users\katrin.auspurg\Documents\SAS\VIGSAS";


************************************************************************
// #3 Definition of implausible and illogical combinations
* see §1_earningsexample.pdf for details;

%macro impl;
        bad =

(x6 = 1  & x7 = 2) |
(x5 = 8  & x3 = 1) |
(x5 = 10 & x3 < 3) |
(x5 = 1  & x8 > 6) |
(x5 = 2  & x8 > 7) |
(x5 = 3  & x8 > 7) |
(x5 = 4  & x8 > 8) |
(x5 = 5  & x8 > 8) |
(x5 = 6  & x8 > 8) |
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(x5 = 8  & x8 < 3) |
(x5 = 9  & x8 < 5) |
(x5 = 10 & x8 < 5)

    %mend;
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// #4 Optional: You may estimate a minimum number of vignette cases;

%mktruns (2 8 3 6 10 2 2 10);
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// #5 Generation of a D-efficient design:
* 120 vignettes under the assumption of interactions and implausible cases
* for details on the interactions see §1_earningsexample.pdf;

%mktex (2 8 3 6 10 2 2 10, restrictions = impl, interact=
x1*x8 x1*x4 x5*x6, n=120, options = resrep, seed = 815);
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// #6 Blocking to decks:
* 12 Decks à 10 vignettes (using the last fractionalized sample that was generated);

%mktblock (nblocks = 12);
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// #7 Data export
* you might export the blocked data in your library to another program, like Stata.
* Right click on the dataset → follow the instructions.
* When exporting the data to a Stata format we renamed them to „fractionalized120.dta".
* Keep in any case the D-efficiency values before exiting SAS!
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