

A computer program has been developed, by using Visual Basic 5, to teach the technique of moment redistribution as applied to the design of continuous reinforced concrete beams, according to BS 8110

The tool provides facilities for the user to develop a redistribution envelope, by using results from elastic analysis. Dialog boxes are provided to input or change parameters effectively, while displaying the current position of the user all the time. Warning messages are incorporated to prevent the user from violating the guidelines stipulated in the code. The user may repeat this redistributing process to adjust the moments to his/her satisfaction. After that the program will calculate the steel percentages at critical sections and subsequently curtail reinforcement according to the selected envelope, where the user is provided facilities to add anchorage lengths, as required. The program is also capable

of performing the deflection check. If the user is not satisfied about the economies or cost effectiveness of the final product, s/he may go back to the module of redistribution and repeat the whole process.

This interactive and user-friendly program gives the user an opportunity to test his/her imagination in a cost- effective manner and also provides facilities for him/her to explore and understand the potential of the technique. The program is not a complete automation of calculation but a tool, which expects or allows the students to use his /her engineering judgement at several stages of the calculations to produce a realistic end result. The tool takes less than one hundredth of the time of manual calculation and may also be used in the design office.