Program Komputer Untuk Perhitungan Kolom Beton Akibat Beban Aksial Tekan Dan Lentur Biaksial Pada Rangka Dengan Pengaku (Braced Frame) Dan Tanpa Pengaku (Sway Frame)

Abstrak

Column calculation on frame system is a long and iterative process. This program is used to calculate column on general aspects, these aspects are slender, biaxial, braced frame and sway frame. This program uses Borland Delphi 7.0 language. Data input consists of material data (fy, f&#65533;c), load data (Pu, M1bx, M2bx, M2sx, M1by, M2byand M2sy), column data (b, h and L) and beam data(bb, hband Lb). The gained result is the table that contains output data of calculation, that is slender limit, k.Lu/r, ψA, ψB, k, δB, δS, Mc, As, As/Ag, β, Pn pl, Pn ada, Mn pl, Mn adafor axe x and axe y. For validation, output of calculation can be compared between manual and program calculation. The results of comparison are the biggest error percentage 0,0054% and smallest error percentage 0% (not difference). This is because in manual calculation there is always rounding every step, while in the computer calculation rounding is done at the end of process. Performance of the program is proper and satisfying to be used in short time and accurate.