

# Multiplicity over the HR diagram

For a blind sample of 1000 (field) stars, how many would be a binary or a multiple?

- O type stars: 80-100 %
- B type stars: 50-70% (q>0.1)
  1. Cepheids: at least 70%
  2. Be stars: double star phenomena (100%?)
- A type stars: at least 50%
  1. Am, Ap stars (100%?)
- F type stars: 50 %
- G and K type stars: 40 %
- M type stars: 26 % (volume limited solar neighborhood census)
  
- We would expect **500 binaries and multiples!**
  
- In a sample of 1000 stars cleaned from all known binaries and multiples (spectroscopy, astrometry, HR imaging) how many would be single stars?

