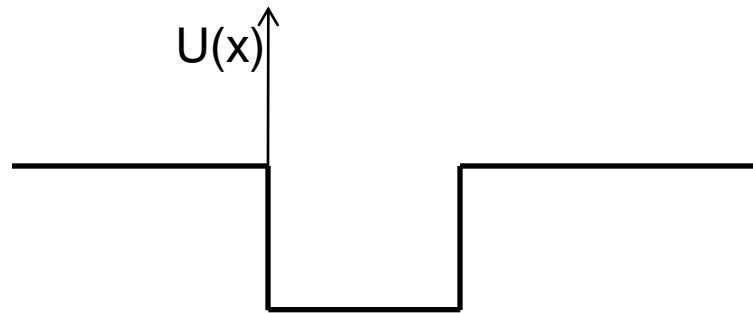


L



L

If a 1D infinite potential well and a 1D finite potential well both have a size  $L$ , which ground state has the higher energy?

a) The finite potential well ground state.

b) The infinite potential well ground state.

c) They are the same.

The wave vector,  $k$ , will always be greater inside the well (shorter wavelength), so  $E_1$  is always higher.