Boundary conditions

We can solve the SEQ wherever we know U(x). However, in many problems, including the 1D box, U(x) has different functional forms in different regions. In our box problem, there are three regions:

1: $x < 0$

2: $0 < x < L$

3: $x > L$

$\psi(x)$ will have different functional forms in the different regions.
We must make sure that $\psi(x)$ satisfies the constraints (*e.g.*, continuity) at the boundaries between these regions.

The extra conditions that ψ must satisfy are called "boundary conditions". They appear in many problems.