Practice estimation – using this simulated data, where treatment occurs at X=20, estimate the causal effect using a sharp RDD

* 1. Drop x\_c and create a new x\_c that is the re-centered running variable using a cutoff of 20.
  2. Plot conditional means with both linear and quadratic fits on left and right of the cutoff.
  3. Global and local regressions.
     1. Estimate local regressions of treatment effects at ranges of 15 to 25; 17 to 23; 18 to 22.
     2. Estimate OLS regression models with interacted re-centered running variables for first, second and then third order polynomials for the entire sample (global)
  4. Estimate a McCrary density test. Do you find any evidence for manipulation?
  5. Estimate the effect using rdrobust