1) Characters a-z, A-Z counting

count the occurrences of each english character (i.e. a-z, A-Z) in text, and print them out.

How?

The __global__ charcmp() checks the existence of each english character at all indexes of text (one thread for an index), and fills 1 for true cases in another array cnt. Then the thrust::reduce() sums cnt for each character.

2) Swap every pair of characters in a word

swap every pair of 2 English characters in each word. (the swaped text is stored back, and will not be printed on the screen) **How?**

The head of each word is passed to __global__ SwitchText(). For each word, the # of threads launched is as the # of chars between every two heads.

The block size is set as 2. Every thread loads one char, checks if the two chars (loaded by itself and its neighbor) are English characters, and swaps them for true cases.