

# Homework

- Given the technology parameters of our 180nm CMOS process, take a device of  $W/L = 1.0 / 0.18 \text{ um}$ . Simulate, print and plot  $I_{ds}$  vs.  $V_{gs}$  for a range of  $V_{gs}$  values.
- Read the paper VTHextract.pdf (in Moodle under Lecture Material) and write a program to extract the value of  $V_{th}$  using the methods explained in the paper in paragraphs 2.1 and 2.2.

Use:

Technology file for our TSMC180nm tech

Schematic capture program or write a netlist by hand with a text editor

LTSpice Simulator