Last updated 2/25/19

 MicroMagic's MAX is a Computer Aided Design (CAD) tool focused on Integrated Circuit (IC) design

- www.micromagic.com
- It runs in Linux
- It requires a license to run
 - Served from an MSOE computer
 - Must be connected to the MSOE network

- MicroMagic Software Download
 - Open the following web page using the Firefox browser
 - <u>http://www.micromagicdownloads.com/download.html</u>
 - Fill in the form
 - password (see instructor)
 - Linux 64 bit only
 - The mmi64_xxxxx file will be downloaded

- MicroMagic Software Download
 - Select Save File
 - Leave the default download location as Downloads

	Opening mmi64_180911.tgz	8
You have chosen to o	open:	
mmi64_180911.	tgz	
which is: Tar arc from: http://cro	chive (gzip-compressed) (59.8 MB) ow.he.net	
What should Firefo	ox do with this file?	
Open with	Archive Manager (default)	
○ <u>S</u> ave File		
🗆 Do this <u>a</u> uto	matically for files like this from now on.	
	Cancel OK	
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MicroMagic Software Install

Open a terminal in Linux – ctrl+alt+t

cd

```
TRIPLE check before
mkdir -p ~/cad
cp ~/Downloads/mmi64_180911.tgz ~/cad
                                          hitting enter on each
cd ~/cad
                                          command
tar -xzvf ~/cad/mmi64 180911.tgz
In -s ~/cad/mmi64_180911 ~/cad/mmi
cp -a ~/cad/mmi/mmi_local.sample ~/cad/mmi_local
echo "# Setup for Micro Magic CAD tools" >> ~/.bashrc
echo "MMI_TOOLS=~/cad/mmi " >> ~/.bashrc
echo "export MMI TOOLS " >> ~/.bashrc
echo "PATH=${MMI_TOOLS}/bin.i486-linux:$PATH " >> ~/.bashrc
echo "export PATH " >> ~/.bashrc
echo "export MMI_LICENSE_SERVER=applicense5.msoe.edu" >> ~/.bashrc
```

EE 4981

- MicroMagic Software Install
 - Close the terminal ctrl+d
 - Open a terminal alt+ctrl+t
 cd ~
 mkdir ee4981
 cd ee4981
 max
 - The MicroMagic software should start

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• Exit Max

LINUX

poly_re text via

- MicroMagic Software Install MSOE
 - In Firefox Go to Dr. Johnson's webpage in Firefox (search Johnson MSOE)
 - Go to EE4981
 - Go to Labs
 - Select MSOE 25nm Technology Directory
 - Save Link As save into Home/cad/mmi/max/tech
 - In Linux terminal crtl+alt+t cd cd cad/mmi/max/tech tar –xvf msoe25.tar.gz

TRIPLE check before hitting enter on each command

- MicroMagic Software Install MSOE
 - In Firefox Go to Dr. Johnson's webpage in Firefox
 - Go to EE4981
 - Go to Labs
 - Select SRAM bit example
 - Save Link As save into Home/ee4981
 - In Linux terminal ctrl+alt+t cd cd ee4981 max –tech msoe25 sram_bit

TRIPLE check before hitting enter on each command

• The SRAM cell should open in MAX

SRAM_bit in MicroMagic-MAX

File Edit View Tool Select Misc Local Help ListBox: BUT-1 places cell into current, BUT-3 or SHIFT-BUT-1 loads cell as current					
Active:		ad/mmi/max/cells:			
auto		G fet 🔶			
-cens-		G poly_resisto G text			
-all-		G via			
metal					
m5					
H v45					
× v34					
m3					
√ v23		2			
m2 H v12		ij/ee4981/library			
m1		sram_bit			
🔀 ct		B UNNAMED			
active					
ndif					
pdif					
🚟 nwc					
other					
nw					
pplus		2			
nplus					
prb					
	✓ drc clean in < > 0ut select: 0 3.650, 1.350 box: 4.250 x 6.250, area	a: 26.562500			