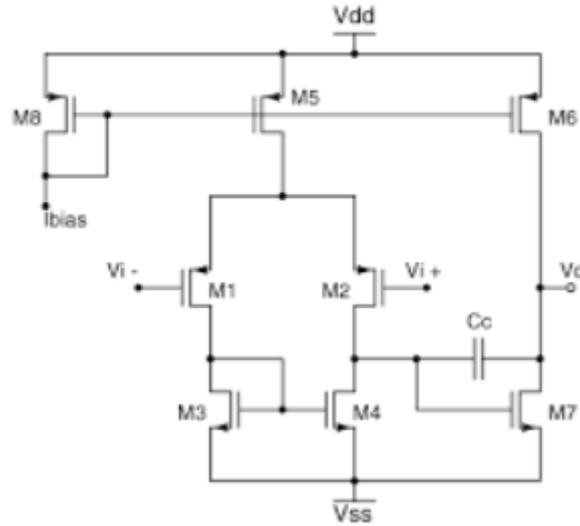


- d) The transistor is working in strong-inversion.
5. If we want to avoid weak inversion in a NMOS transistor we need:
- To increase the effective voltage drop in the channel.
 - To decrease V_{GS} .
 - To decrease its length.
 - To decrease V_{DD} .
6. In a cascode current mirror some transistors will have different threshold voltage than others due to:
- Body effect. This will happen only in those transistors with $V_{BS} \neq 0$.
 - Body effect. This will happen always in this circuit.
 - Channel length modulation. This will happen always in this circuit.
 - Channel length modulation. This will happen only in those transistors with $V_{BS} \neq 0$.
7. If we want to increase f_t in a MOS transistor we need to:
- Decrease its length.
 - Decrease its V_{GS} .
 - Increase C_{GD} .
 - Increase C_{SB} .
8. What is true about cascode current mirrors?
- Their output resistance is higher than in regulated current mirrors.
 - Their output resistance can be enhanced with a small amplifier.
 - They are not suitable for low voltage circuits.
 - They behave as ideal current sources.
9. In a regular cascode current mirror:
- The minimum output voltage depends only on the output current.
 - The minimum output voltage is the saturation voltage plus the threshold voltage of the transistors.
 - The minimum output voltage is twice the current mirror transistor saturation voltage.
 - The minimum output voltage is twice the saturation voltage plus the threshold voltage of the transistors.
10. This amplifier is:



- a) A folded cascode opamp targeted for large capacitive loads.
- b) A folded cascode opamp targeted for small capacitive loads.
- c) A Miller opamp targeted for small capacitive loads.
- d) A Miller opamp targeted for large capacitive loads.