**Course: Fluid Mech 2nd Year Mech Power Eng Feb 2018**

**Instructor: Prof Ghazy Assassa**

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**Report Title: Group report (max 5 students) on the solutions of NS eqns**

**Release date: 28-2-3018**

**Deadline: 7-3-2018**

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You are required to submit a report on the solution of NS eqs for Combined Couette and Poiseuille flows.

1. Assume any require data.
2. Write the governing eqns and associated boundary conditions.
3. Solve for the velocity distribution u(y)
4. For the case of favorable pressure gradient, sketch the velocity profile and find the height y(fav) where the velocity equals the driving plate velocity U
5. For the case of adverse pressure gradient, sketch the velocity profile and find the height y(adv) where the velocity equals zero