**Homework on Labor Supply**

Jenny has preferences given by the utility function $U(C, L) = C^2L$ so that the slope of her indifference curve is $-\frac{C}{2L}$. Johnny has the same preferences we saw in the class example (i.e. $U(C, L) = CL$ so the slope of his indifference curve at any point is $-\frac{C}{L}$).

1. Which of them has the relatively stronger preference for consumption over leisure? Explain.

2. They can both earn $10$ per hour, they both have a non-labor income of $300$ per week and they have $110$ hours per week of non-sleeping time (as in class). Who works the most hours? How much do each of them make per week?

3. What are their reservation wages?

4. Starting from their preferred choice of work hours at $10$ per hour (from part 2), suppose they were offered overtime at $20$ per hour how many hours of overtime would each of them want to put in? How much would each of them earn?

5. Plot out the labor supply curves for Johnny and Jenny. Do either of them have backward bending labor supply curves?