1. Show the necessary pin connections to obtain , , , control signals for the 8085/8085A microcomputer by using 74LS138 and 74LS139 integrated circuits.
2. For a microprocessor-based control system, 16Kbyte ROM and 4Kbyte RAM are needed. ROM and RAMs are required to be placed in the regions given below in the system memory map. 2764 IC will be used as ROM and 4118 IC will be used as RAM. Design the address decoder circuit that will produce the desired memory map using standard logic gates (https://en.wikipedia.org/wiki/List\_of\_7400-series\_integrated\_circuits) and decoder (74LS138, 74LS139, 74LS154) integrated circuits.

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| EPROM-01 | 0000H-1FFFH |
| EPROM-02 | 2000H-3FFFH |
| RAM-01 | 8000H-83FFH |
| RAM-02 | 8400H-87FFH |
| RAM-03 | 8800H-8BFFH |
| RAM-04 | 8C00H-8FFFH |

In both questions, draw your designs using the Autodesk Eagle application.