Artificial Intelligence and Machine Learning (18CS61)
Open Book Assignment -1

1. Investigate the file search facility on your computer. Which type of search method do you think it uses? Why do you think this particular search method was chosen? What problems could this approach cause it? How well does it work when it is searching directories with large numbers of files in them
2. If you replaced each of the neurons in your brain one by one with electronic neurons (take on trust for now that electronic neurons are possible), what do you think would be the effect? How would your perceptions of the world change during the process? At the end of the
   process, would you still be you? Would you still be conscious? Would you still be capable of having mental states and emotions? (Note: there are no right answers to these questions.)

3. Assume that you are travelling by flight to a foreign country. Airline allows 2 bags of 23 Kg each in check-in and 1 bag of 7kg in cabin. There are restrictions on items you can include in the check-in baggage and cabin bags. For example electronic items need to be included in cabin bag, 100 oz limit on liquid items and so on. When you take your bag to the airline it is found by the airline staff that capacity of the bag is exceeded and there are some restricted items.

   Study the restrictions w.r.t items and quantity you can include in your check-in baggage and cabin bag. Apply 0-1 knapsack / fractional knapsack in the below mentioned scenarios
   a) Individual capacity of 23 kg should not be exceeded
   b) Total capacity of 46 kg should not exceeded. (But also take into account the individual capacity of the bags)
   c) How do you decide which items to throw? (You cannot carry them due to restrictions and exceeded capacity of the bag)
   d) You have electronic charger in the check-in bag. In which bag you will put it and whether that bag has a space to include it.

Note: For problem 3: You need to assume items and values. If same values and items found, then it will result into deduction of marks.