ASSIGNMENT 1: done by:KAUSTHUB TM.

ANS 1: I believe that DL is going to replace ML in the near future. The success of a ML or DL program lies on its accuracy of the answer and accuracy wise DL is better. The drawback of DL is the need for more data and longer time for execution .This can be resolved by the coming of better technology in the future like faster computers that can genrate and manage data faster and better.Generally, machine learning deals with numeric output while DL deals with speech , vision , touch etc. outputs. So, I believe that DL has better performance and will be the popular one than ML in the future.

ANS 2:

Supervised learing:

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| PROS | CONS |
| There is clarity of data since we know the no of classes and we know the output. | Inability to learn by itself and cannot handle complex tasks in ML. |
| Ease of training as the process is simpler compared to other types of learning. | In the case of classification, if we give an input that is not from any of the classes in the training data, then the output may be a wrong class label. For example, let’s say you trained an image classifier with cats and dogs data. Then if you give the image of a giraffe, the output may be either cat or dog, which is not correct. |

Unsupervised learing:

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| PROS | CONS |
| Broad classification and a varied data can be used as an input and helps you to find a patttern in the data. | You cannot get precise information regarding data sorting, and the output as data used in unsupervised learning is labeled and not known |
| It is easier to get unlabeled data from a computer than labeled data, which needs manual intervention. Also, unsupervised methods help you to find features which can be useful for categorization. | Less accuracy of the results is because the input data is not known and not labeled by people in advance. This means that the machine requires to do this itself. |

Reinforcement learning:

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| PROS | CONS |
| Reinforcement learning can be used to solve very complex problems that cannot be solved by conventional techniques and to achieve long-term results which are very difficult to achieve. | Reinforcement learning is not preferable to use for solving simple problems. |
| The model can correct the errors occurred during the training process and the accuracy is quite high. | Reinforcement learning needs a lot of data and a lot of computation. It is data-hungry. |