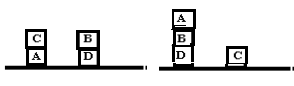
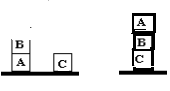
* Use Heuristic Search Techniques to Implement Hill-Climbing / Steepest Descent Hill Climbing Algorithm. Select a suitable graph with appropriate node heuristic to search for goal node. Draw solution tree on paper for the problem graph selected.
* Use Heuristic Search Techniques to Implement Best First Search for goal node. Select a suitable graph with appropriate node heuristic. Draw solution tree on paper for the problem graph selected.
* For a suitable graph with appropriate node heuristic, perform A\* search for goal node. Draw solution tree on paper for the problem graph selected.
* Solve 8-puzzle problem using A\* algorithm. Assume any initial configuration and define goal configuration clearly. Draw solution tree on paper for the problem selected.
* Implement goal stack planning for the following configurations of START and GOAL state from the blocks world. Arm is empty.
* 
* Implement goal stack planning for the following configurations of START and GOAL state from the blocks world. Arm is empty.
* 
* Implement goal stack planning for the following configurations of START and GOAL state from the blocks world. Arm is empty.
* 
* A. Develop elementary chatbot for investment information as per the customers needs. Use the given Allice Bot folder(ab-AIR)

B. Use Heuristic Search Techniques to Implement Hill-Climbing / Steepest Descent Hill Climbing

Algorithm.

* Use Python and Perform following on the Iris flower dataset or any other dataset
  + - How many features are there and what are their types (e.g., numeric, nominal)?
    - Compute and display summary statistics for each feature available in the dataset. (eg. minimum value, maximum value, mean, range, standard deviation, variance and percentiles
    - Data Visualization-Create a histogram for each feature in the dataset to illustrate the feature distributions. Plot each histogram.
    - Create a boxplot for each feature in the dataset. All of the boxplots should be combined into a single plot. Compare distributions and identify outliers.
* Write a program in Python to classify samples from a test dataset using Naive Bayes Algorithm for classification.
  + - Use appropriate data set.
    - Load the data from CSV file
    - Perform data preprocessing wherever required.
    - Split it into training and test datasets with ratio 80:20, 70:30, 60:40.
    - Display graphical results using graphs, Pie Charts,….
    - Compare the result with other classifiers. (Optional).

(Dataset Stored on \\Desktop : LP-1\_DA\_dataset)

* A. Use Movies Dataset. Implement queries in MongoDB /Python for simulation of map and reduce methods to determine the average ratings of movies. The map should emit movie number and list of rating, and reduce should return for each movie number a list of average rating.
  + B. Develop elementary chatbot for investment information as per the customers needs. Use the given Allice Bot folder (ab-AIR)
* A. Use Movies Dataset. Implement various queries(Minimum 10 -15 queries) in MongoDB for the given dataset.
  + B. for simulation of map and reduce methods ,determine the average ratings of movies. The map should emit movie number and list of rating, and reduce should return for each movie number a list of average rating.
* Write a program in Python to classify samples from a test dataset using Decision Tree (ID3, Random Forest,….) Algorithm for classification.Use PimaIndianDiebeties dataset
  + - Use appropriate data set.
    - Load the data from CSV file
    - Perform data preprocessing wherever required.
    - Split it into training and test datasets with ratio 80:20, 70:30, 60:40.
    - Display graphical results using graphs, Pie Charts,….
    - Compare the result with other classifiers. (Optional).
* Write a program in Python to Analyse samples from a dataset Create your own data set as .csv and perform following operations.
  + - Load the data from CSV file
    - Perform data preprocessing wherever required.
    - Perform necessary statistical operations on it.
    - Display graphical results using various graphs (Boxplot, Linechart, Pie Charts etc)
    - Analyze the result

((Dataset Stored on \\Desktop : LP-1\_DA\_dataset))

* A. Use Movies Dataset. Write a program in Python for simulation of map and reduce methods to determine the average ratings of movies. The map should emit movie number and list of rating, and reduce should return for each movie number a list of average rating.

B. Write a parallel program (using OpenMp) to add two large vectors.

* Use Python and Perform following on the Iris flower dataset or any other dataset
  + - How many features are there and what are their types (e.g., numeric, nominal)?
    - Compute and display summary statistics for each feature available in the dataset. (eg. minimum value, maximum value, mean, range, standard deviation, variance and percentiles
    - Data Visualization-Create a histogram for each feature in the dataset to illustrate the feature distributions. Plot each histogram.
    - Create a boxplot for each feature in the dataset. All of the boxplots should be combined into a single plot. Compare distributions and identify outliers.
* Write a program in Python to classify samples from a test dataset using Naive Bayes Algorithm for classification.
  + - Use appropriate data set.
    - Load the data from CSV file
    - Perform data preprocessing wherever required.
    - Split it into training and test datasets with ratio 80:20, 70:30, 60:40.
    - Display graphical results using graphs, Pie Charts,….
    - Compare the result with other classifiers. (Optional).
* Write a program in Python to classify samples from a test dataset using Decision Tree (ID3, Random Forest,….) Algorithm for classification.
  + - Use appropriate data set.
    - Load the data from CSV file
    - Perform data preprocessing wherever required.
    - Split it into training and test datasets with ratio 80:20, 70:30, 60:40.
    - Display graphical results using graphs, Pie Charts,….
    - Compare the result with other classifiers. (Optional).

((Dataset Stored on \\Desktop : LP-1\_DA\_dataset))

* Write a program in Python to classify samples from a test dataset using Decision Tree (ID3, Random Forest,….) Algorithm for classification.
  + - Create your own data set
    - Load the data from CSV file
    - Perform data preprocessing wherever required.
    - Split it into training and test datasets with ratio 80:20, 70:30, 60:40.
    - Display graphical results using graphs, Pie Charts,….
    - Compare the result with other classifiers. (Optional).
* A. Write a program in Python to Analyse samples from a dataset Create STUDENTS PLACEMENT data set as .csv and perform following operations. (Assume suitable features for placement data)
  + - Load the data from CSV file
    - Perform data preprocessing wherever required.
    - Perform necessary statistical operations on it.
    - Display graphical results using various graphs (Boxplot, Linechart, Pie Charts etc)
    - Analyze the result
* B. Use Heuristic Search Techniques to Implement Hill-Climbing / Steepest Descent Hill Climbing Algorithm.
* A. Write a parallel program (using OpenMp) to add two large vectors.

And

B. Write a parallel program (using OpenMp) to multiply vector and matrix.

* Write a parallel program (using OpenMp) to multiply vector and matrix.
* Write a parallel program (using OpenMp) for matrix multiplication.
* Write a parallel program (using OpenMp) for Bubble Sort. (i.e. you have to implement Even-Odd Sort)
* Write a parallel program (using OpenMp) for Merge Sort.
* Write a parallel program (using OpenMp) for Binary Search for Unsorted Array.
* Write a parallel program (using OpenMp) for :
  + Depth-First Search ( tree or an undirected graph )

OR

* + Breadth-First Search ( tree or an undirected graph)