

PUSL3190

Computing Individual Project

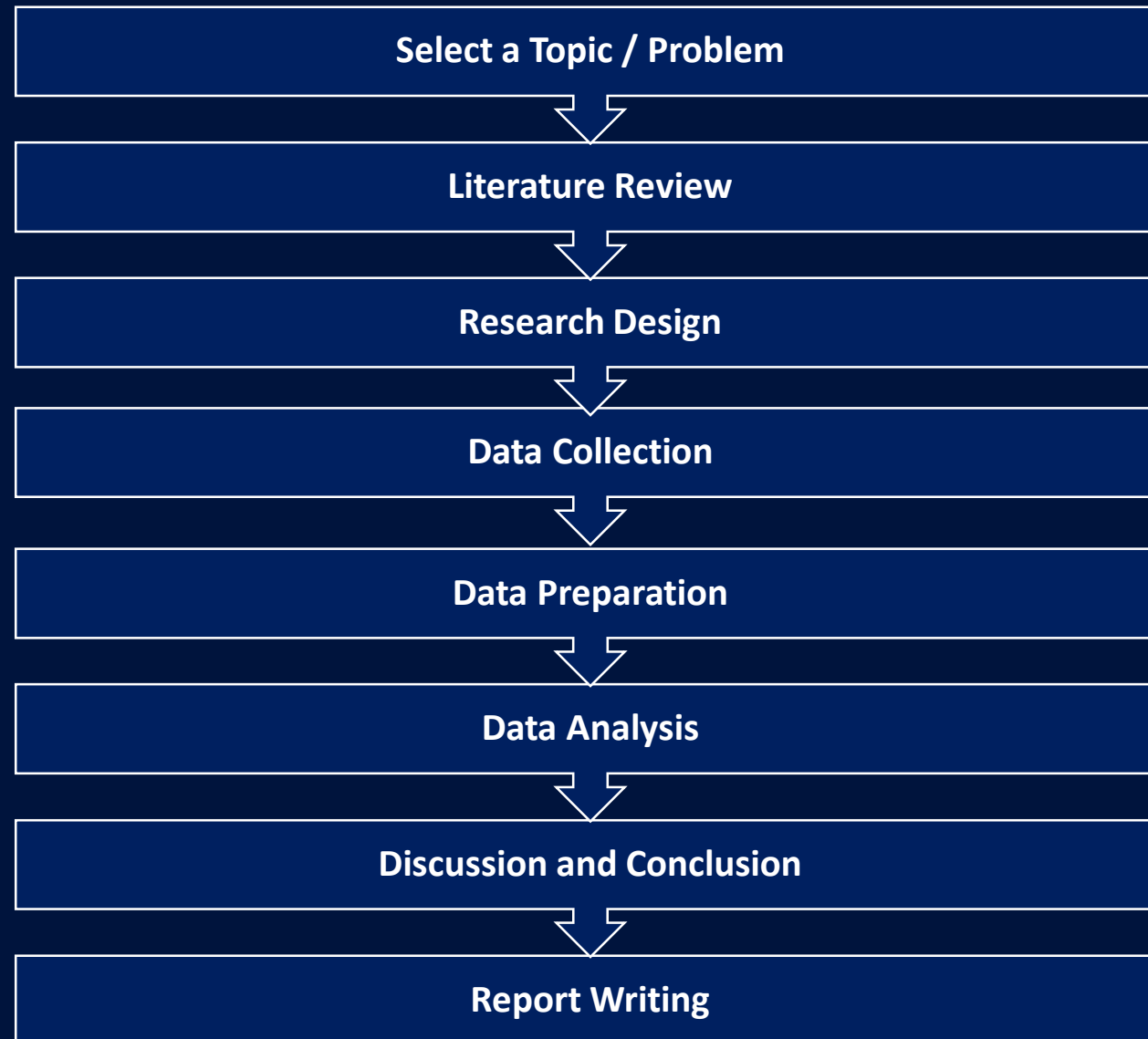


Literature Review

Lecture 01



Research Process



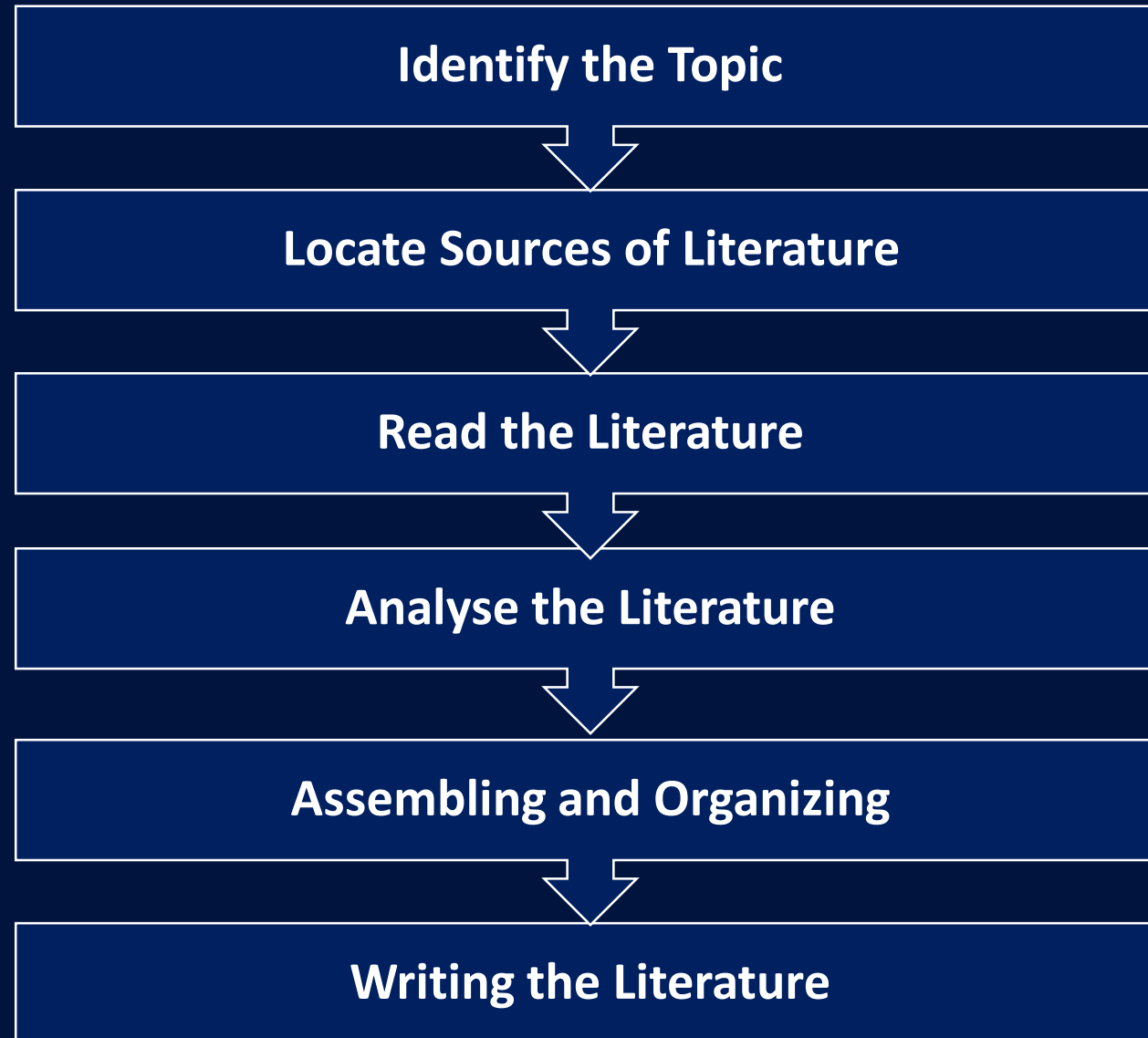
What is a Literature Review

A literature review is a body of text and its main goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as the justification for future research in the area. It seeks to describe, summarize, evaluate, clarify and or integrate the content of previous researches.

Why Literature Review

- Distinguishing what has been done and what need to be done.
- Discovering important areas relevant to the topic.
- Identifying the main methodologies and technologies that have been used.
- Understanding the structure of the selected topic / area.

How to Conduct a Literature Review



Sources of Literature

Primary Sources

- 01. Research Articles
- 02. Thesis
- 03. Conference Reports
- 04. Company Reports
- 05. Emails

Secondary Sources

- 01. Newspapers
- 02. Books
- 03. Journals
- 04. Internet

Tertiary Sources

- 01. Search Engines
- 02. Encyclopaedia
- 03. Catalogues



Reading the Literature

Read abstract of the literature



Skim through the literature



Survey the main parts of the literature

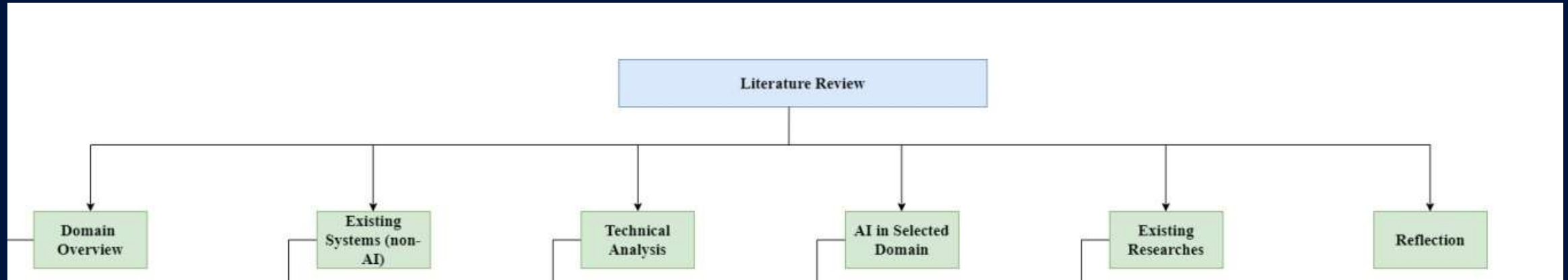


Read in detail the selected important parts

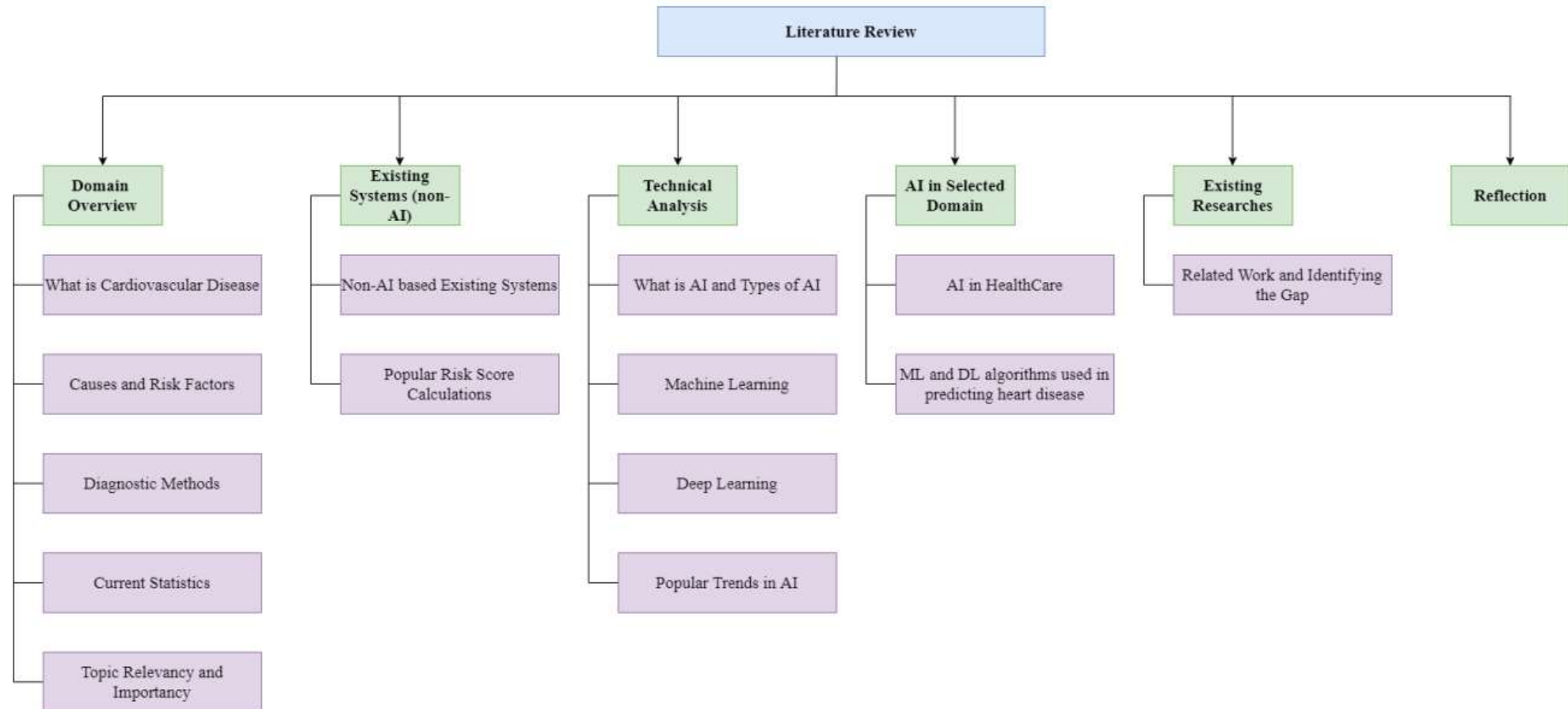
Objective of a Literature Review

- A lit review should be conducted around the chosen research topic
- It aims to give an understanding of the problem domain, existing methods regarding the research area, and the results of the previous researches conducted by the same topic.

Conceptual Map of a Literature Review



Conceptual Map of a Literature Review (Example)



Literature Review (Example – Domain Overview)

- Based on research (Menotti et al., 2018) done in seven different countries, four major traditional risk factor coefficients which are, age, smoking, serum cholesterol, and systolic blood pressure were discovered to be homogenous across the different areas. In 2019, research on 'Cardiovascular Disease and Mortality' was done with 155722 participants from 21, low-income, middle-income, and high-income countries (Yusuf et al., 2020).

Literature Review (Example – Existing Systems)

At present, there are several risk prediction tools available and widely being used by cardiologists. The heart disease risk calculator developed by 'Mayo Clinics' assesses the risk of cardiovascular disease through a set of basic questions. After taking the demographic information, the risk assessment takes the patient several cardiovascular disease-related questions, from which they will provide guidelines of what to do and a 30- year risk estimate at the end of the questionnaire (Mayo Clinic Health System, 2018). One of the main drawbacks identified in this system is the lack of focus on Asians.

Literature Review (Example – Technological Review)

Supervised learning, unsupervised learning, semi-supervised learning, and reinforcement learning are the four main categories in ML. Algorithms in Supervised Learning, use a labeled dataset to predict the desired outcome. The primary goal is to discover the best function that maps inputs to their correct output. It is based on training the machine with pre-matched pairs(inputs and outputs). Classification and Regression related problems are solved using supervised learning techniques [(Du-Harpur et al., 2020), (Krittanawong et al., 2017)].