Logic and Computational Thinking

Modality: Self-Paced Learning

Duration: 12 Hours

SATV Value:

CLC:

NATU:

SUBSCRIPTION: Learn, Master

ABOUT THIS COURSE:

One of the first steps to being an outstanding computer programmer is to learn how a machine "thinks." In establishing the comprehension, a base in logic is key. Learning logic is more than attempting to understand a set of rules. It includes understanding how to split issues into smaller chunks, finding out how to boost quality and save time through repeatable procedures, and learning how to arrange issues on the right scale.

You will discover how to do all those stuff in this program and use computers to make them simpler. Logical operations, after all, are what the machines do best!

It is not a programming workshop, but it does show you how to handle critical thought to improve programming and testing as both a lifestyle and an aid.

Course Objective:

- Inductive and deductive argument forms
- How to split problems down into easier tasks
- How to troubleshoot an algorithm
- Logical form
- How to build arguments
- The fundamentals of critical thought
- Understanding patterns and their importance
- The relationship of logic to basics in computer science

Audience:

- Computational Scientist

Prerequisite:

- This course has no prerequisites

Course Outline:

Logic and Computer Science

- Formal Logic and Computer Science
- Introduction to Formal Logic
- Symbolizing and Logical Operators

Deductive and Inductive Arguments

- Types of Arguments
- Deductive Arguments
- Inductive Arguments

Categorical Logic

- Introduction to Categorical Logic
- Categorical Form and Syllogism
- Venn Diagrams

Introduction to Critical Thinking

- What Is Critical Thinking
- Inductive Reasoning Applied
- Case Study

Final Exam

- Final Exam