Disciplines	Cognitive Science Neuroscience Psychology Evolutionary Psychology	A multidisciplinary field that studies the mind and intelligence, including perception, learning, memory, reasoning, and language. Integrates knowledge from psychology, neuroscience, linguistics, anthropology, and artificial intelligence. Examines the structure and function of the brain, focusing on how neural circuits and processes underpin cognitive abilities and behaviors. Key areas include neuroplasticity, sensory processing, and the brain's role in decision-making. Studies human behavior and mental processes, emphasizing emotions, cognition, and social interactions. Includes subfields like developmental psychology, cognitive psychology, and clinical psychology. Investigates how evolutionary principles like natural selection have shaped human behavior, emotions, and cognitive functions. Explains phenomena like mate selection, cooperation, and social hierarchies. Explores how machines emulate human learning by identifying patterns and		
Theories	Machine Learning (ML) Artificial Intelligence (Al) Bounded Rationality & Simple Heuristics Social Animal Theory	making decisions without explicit programming. Helps in understanding human learning models and improving AI systems. Focuses on creating systems that replicate human intelligence, including reasoning, learning, problemsolving, and language processing. AI and human cognition mutually inform each other through concepts like neural networks. Suggests that human decision-making is limited by information, cognitive constraints, and time. [Simple heuristics (mental shortcuts) help navigate complex decisions efficiently, often yielding practical outcomes. Proposes that humans thrive through social connections, cooperation, and interdependence. Social behaviors are driven by evolutionary and cultural factors. Examines how language reflects thought processes, cultural norms, and social		
	Language as a Window into the Human Mind Decision Theory Reasoning: Deductive and Inductive Argument Theory Bayesian Inference Cognitive fallacies describe errors in reasoning, judgment, and decision-making, often arising due to cognitive	structures. The study of semantics, syntax, and pragmatics reveals insights into cognition. Explores how individuals and groups make choices under conditions of uncertainty or risk. Involves rational and behavioral decision-making models. Deductive Reasoning: Derives specific conclusions from general premises. Inductive Reasoning: Generalizes patterns or trends from specific observations. Focuses on constructing, analyzing, and evaluating arguments to improve critical thinking and persuasion. Updates probabilities and beliefs based on new evidence using Bayes' Theorem. Widely applied in decision-making, prediction, and statistical analysis.		
How the Mind Works Cognitive Fallacies	Fallacies in Human Reasoning	Informal Fallacies Formal Fallacies	Logical errors in everyday reasoning, such as: False Dilemma: Presenting a limited choice when alternatives exist. Correlation # Causation: Mistaking correlation for causation. Post Hoc: Assuming that because one event followed another, it was caused by it. Begging the Question: Assuming the truth of a premise in need of proof. Errors in the logical structure of arguments, including: Denying the Antecedent: Assuming that if a premise is false, the conclusion must also be false. Affirming the Consequent: Mistaking the relationship between conditions. Affirming a Disjunct: Misinterpreting mutually exclusive options. Systematic errors in thinking that influence judgments and decisions, such as: Bandwagon Effect: Following the majority without critical	
	Fallacies in Daily Judgment and Decision-Making	Judgment and Decision-Making	thought. Authority Bias: Overvaluing the opinion of an authority figure. Confirmation Bias: Favoring information that confirms existing beliefs. Framing Effect: Being influenced by how information is presented. Wishful Thinking: Believing what is desirable rather than what is true. Errors arising in everyday situations, including: Cognitive Dissonance: Justifying conflicting beliefs or behaviors. Representativeness Heuristic: Judging probabilities based on resemblance to known examples. Availability Heuristic: Overestimating probabilities based on easily recalled information. Paradox of Choice: Overwhelmed by too many options, leading to decision paralysis. Examines how psychological factors affect economic	
Critical Thinking	Critical thinking involves analyzing and evaluating information to make sound judgments and solve problems. What's the Problem? What Are the Assumptions?	Define the issue clearly to ensure appropriate solutions. Use measurable criteria to evaluate progress and success. Uncover unconscious assumptions that may skew reasoning.	decisions: Why Smart People Make Big Money Mistakes: Emotional biases in financial decisions. Predictably Irrational: Systematic irrational behaviors in economic contexts. Black Swan: Underestimating the impact of rare, unpredictable events. Ask questions like: "Does it have to?" or "What would happen if?"	
	What Are the Facts? Where's the Logic? What's the Conclusion? Problem-solving involves identifying, analyzing, and addressing challenges using structured techniques.	Strategies to identify assumptions: Differentiate between assumptions and verified knowledge. Gather accurate data to inform decisions. Routine questions: "Really?" or "Is this supported by evidence?" Examine the logical consistency of arguments. Challenge flawed reasoning with questions like: "Does this necessarily mean?" Avoid hasty conclusions and evaluate alternative interpretations. Routine questions: "So?" or "What's the implication?"	Formalize reasoning by specifying premises and conclusions. Learn common logical fallacies like false analogies and induction errors.	
Problem-Solving	Types of Problems Techniques	Well-Defined Problems Ill-Defined Problem Clearly Ask questions like: "What's the core issue?" Use Heuristics (Mental Shortcuts)	Problems with clear goals and solutions (e.g., math equations, algorithms). Everyday challenges requiring creative solutions, such as: Require judgment, decision-making, and prioritization of factors. Examples:	Financial decisions Time management Career planning Relationships Complex Problems Trial and Error: Experimenting with different solutions. Analogy: Using similar situations to infer solutions. Root Cause Analysis: Identifying the underlying cause. Lateral Thinking: Creative problem-solving beyond traditional approaches. Specialization
	Presented	Decision-Making Techniques with xmind	Tools for evaluating options:	Specialization Simplification Brainstorming Working backwards Pros and Cons Analysis Key Factor Analysis Choice Under Uncertainty