The National Institute of Engineering, Mysuru

M.Tech. Scheme of Teaching and Examination – 2025-26

I SEMESTER

Sl. No.	Course Type	Course Code	Course Title	Teaching Hours per Week			Examination				Credits
				Lecture	Practical / Seminar	Tutorial / Skill Development Activities	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	P	T/ SDA					
1	BSC/PCC	MCS101	Artificial Intelligence	03	00	00	03	50	50	100	3
2	IPCC	MCS102	Data Science and Management	03	00	00	03	50	50	100	3
3	PCC	MCS103	Data Structures & Algorithms for Problem Solving	03	00	00	03	50	50	100	3
4	PEC	MCS104F	Internet of Things	03	02	00	03	50	50	100	4
5	PEC	MCS105F	Advanced Operating System	03	00	00	03	50	50	100	3
6	PCCL	MCSL106	Algorithms & AI Lab	00	04	00	03	50	50	100	2
7	NCMC	MRMI107	Research Methodology & IPR (VTU Online - online.vtu.ac.in)	Online Course (online.vtu.ac.in)							PP
				Total				300	300	600	18

Note: BSC - Basic Science Courses, IPCC - Integrated Professional Core Courses, PCC - Professional Core, PEC – Professional Elective Course, MCC - Mandatory Credit Course, PCCL - Professional Core Course lab, MPS - Minor Project & Seminar, SP - Societal Project, PROJ – Project, OE - Open Elective, INT – Internship, NCMC – Non Credit Mandatory Course

Course	No. of Courses	No. of Credits
BSC/PCC	01	03
IPCC	01	04
PCC	01	03
PEC	02	06
NCMC- RM&IPR	01	00
PCCL	01	02
Total	08	18

ourse: MCS101 **Course: Artificial Intelligence**
Credits: 3 **L:P:T - 3:0:0**
SEE: 50 Marks **CIE: 50 Marks**
SEE Hours: 3 **Total Marks: 100**

Prerequisites if any	**Artificial Intelligence**
Learning objectives	• Define the foundational concepts of artificial intelligence and key problem-solving techniques. • Explain the knowledge representation and reasoning techniques to solve complex problems in AI systems. • Use machine learning algorithms to evaluate their performance in real-world applications. • Build the applications of natural language processing and robotics to enhance human-computer interaction. • Explore the ethical considerations and societal implications of AI technologies.

Course Outcomes:

On the successful completion of the course, the student will be able to

COs	**Course Outcomes**
CO1	Explain the foundational concepts of artificial intelligence, including its history, types, and key problem-solving techniques.
CO2	Apply knowledge representation and reasoning techniques to solve complex problems in AI systems.
CO3	Implement machine learning algorithms and evaluate their performance in real-world applications.
CO4	Explore the principles and applications of natural language processing and robotics to enhance human-computer interaction.

Course Structure

		No. of Lecture Hours	**No. of Tutorial Hours**	**No. of Practical Hours**
Module 1 - :Introduction to Artificial Intelligence and Problem Solving				
1.1	Definition and scope of AI, History and evolution of AI, Types of AI: Narrow AI vs. General AI, Problem formulation and problem-solving techniques	5	-	-
1.2	Search algorithms: Uninformed and informed search strategies, Heuristic search and constraint satisfaction problems.	3	-	-
Module 2 - Knowledge Representation and Reasoning				
2.1	Types of knowledge representation, Propositional logic and first-order logic ,Semantic networks and frames, Ontologies and their applications, Deductive and inductive reasoning, Rule-based systems and non-monotonic reasoning, Probabilistic reasoning and Bayesian networks.	8	-	-
Module 3– Machine Learning				
3.1	Introduction to machine learning, Supervised, unsupervised, and reinforcement learning, Common algorithms: Decision trees, SVM, neural networks Evaluation metrics for machine learning models ,Practical applications of machine learning in AI systems.	8	-	-
Module 4 - Natural Language Processing and Robotics				
4.1	Basics of natural language processing (NLP), Text processing and language models, Sentiment analysis and language generation, Robotics fundamentals and sensor technologies, Robot kinematics, control, and applications of AI in robotics.	8	-	-
Module 5 - Ethical and Societal Implications of AI				
5.1	Ethical considerations in AI development ,AI and job displacement ,Privacy concerns and data security, Bias and fairness in AI algorithms, Accountability and transparency in AI systems, The role of government and regulation in AI, Public perception and trust in AI technologies, Future of AI and its impact on society.	8	-	-
	Total No. of Lecture Hours	**40**	-	-
	Total No. of Tutorial Hours		**00**	**-**
	Total No. of Practical Hours			**00**

Textbooks:

1. Artificial Intelligence: A Modern Approach" by Stuart Russell and Peter Norvig, 4th Edition (2021)

2. "Deep Learning" by Ian Goodfellow, Yoshua Bengio, and Aaron Courville third Edition.

Reference Book/s:

1. "Pattern Recognition and Machine Learning" by Christopher M. Bishop Edition: fourth Edition (2020) "Artificial Intelligence: Foundations of Computational Agents" by David L. Poole and Alan K. Mackworth Edition: third Edition (2021).

Online Resources:

- https://cs221.stanford.edu
- https://www.kaggle.com/learn/machine-learning
- https://www.youtube.com/playlist?list=PLkDaE6sXhPqQ5s2cW2g1iGgC4eD9W6xZ2
- https://www.youtube.com/playlist?list=PLD6B6F0A3B1D4D3D8A7E3C5E8A7B2E0C

Course: MCS102 **Course: Data Science and Management**
Credits: 3 **L:P:T - 3:0:0**
SEE: 50 Marks **CIE:50 Marks**
SEE Hours: 3 **Total Marks: 100**

Prerequisites if any	Basics of Linear Algebra
Learning objectives	1. Explain the foundational concepts of data science, including its history, significance, and the data science process. 2. Apply statistical methods and data analysis techniques to interpret and draw insights from complex datasets. 3. Implement various machine learning algorithms and assess their performance using appropriate evaluation metrics in real-world scenarios. 4. Utilize data visualization tools and techniques to effectively communicate findings and insights to diverse audiences.

Course Outcomes:

On the successful completion of the course, the student will be able to

COs	Course Outcomes
CO1	Explore the foundational concepts of data science, history, significance, and process.
CO2	Apply statistical methods and data analysis techniques to interpret and draw insights from complex datasets.
CO3	Implement various machine learning algorithms and assess their performance using appropriate evaluation metrics in real-world scenarios.
CO4	Utilize data visualization tools and techniques to effectively communicate findings and insights to diverse audiences.

Course Structure

		No. of Lecture Hours	No. of Tutorial Hours	No. of Practical Hours
Module 1–Introduction to Data Science and R Tool				
1.1	Overview of Data Science Importance of Data Science in Engineering, Data Science Process, Data Types and Structures,	2	-	-
1.2	Introduction to R Programming, Basic Data Manipulation in R, Simple programs using R.	3	-	-
1.3	Introduction to RDBMS: Definition and Purpose of RDBMS Key Concepts: Tables, Rows, Columns, and Relationships, SQL Basics: SELECT, INSERT, UPDATE,DELETE Importance of RDBMS in Data Management for Data Science.	3		
Module 2–Linear Algebra for Data Science				
2.1	Algebraic View, Vectors and Matrices, Product of Matrix& Vector	2	-	-
2.2	Rank and Null Space, Solutions of Over determined Equations, Pseudo inverse	3		
2.2	Geometric View, Vectors and Distances, Projections, Eigenvalue Decomposition.	3		
Module 3– Statistical Foundations				
3.1	Descriptive Statistics, Notion of Probability, Probability Distributions, Understanding Univariate and Multivariate Normal Distributions,	4	-	-
3.2	Mean, Variance, Covariance, and Covariance Matrix, Introduction to Hypothesis Testing, Confidence Intervals for Estimates.	4		
Module 4–Optimization in Data Science				
4.1	Optimization and Data Science Problem Solving, Introduction to Optimization.	4	-	-
4.2	Understanding Optimization Techniques, Typology of Data Science Problems, Solution Framework for Data Science Problems	4		
Module 5–Regression and Classification Techniques				
5.1	Linear Regression , Simple Linear Regression and Assumptions, Multivariate Linear Regression.	4	-	-
5.2	Model Assessment and Variable Importance, Subset Selection, Classification Techniques , Classification using Logistic Regression	4		

Total No. of Lecture Hours	**40**	-	-
Total No. of Tutorial Hours		**00**	**-**
Total No. of Practical Hours			**00**

Textbook/s:

1. "Python for Data Analysis" by Wes McKinney, 2nd Edition (2018)
2. "Data Science from Scratch: First Principles with Python" by Joel Grus, 2nd Edition (2019)

Reference Books:

1. "An Introduction to Statistical Learning" by Gareth James, Daniela Witten, Trevor Hastie, and RobertToshigami, 2nd Edition (2021)
2. "The Elements of Statistical Learning" by Trevor Hastie, Robert Toshigami, and Jerome Friedman, 2nd Edition (2009)
3. "Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking" byFoster Provost and Tom Fawcett, 2nd Edition (2013)

Online Resources:

1. https://www.coursera.org/specializations/jhu-data-science
2. https://www.kaggle.com/learn/data-science
3. https://www.edx.org/professional-certificate/harvardx-data-science
4. https://www.youtube.com/playlist?list=PL4cUxeGkcC9g1s4L6G8p8Fq5XK6Pq7b1k

Course: MCS103 **Course: Data Structures & Algorithms for Problem Solving**
Credits: 3 **L:P:T - 3:0:0**
SEE: 50 Marks **CIE: 50 Marks**
SEE Hours: 3 **Total Marks: 100**

Prerequisites if any	Data Structures and Algorithms
Learning objectives	• To minimize development time and optimize resource utilization in maintaining software applications through the effective application of data structures and algorithms. • To enhance code reusability and foster a competitive edge by leveraging efficient data structures and algorithms in solving computational problems.

Course Outcomes:

On the successful completion of the course, the student will be able to

COs	Course Outcomes
CO1	Analyze and apply fundamental data structures and algorithms to solve complex computational problems effectively.
CO2	Evaluate and implement various searching, sorting to optimize algorithm performance.
CO3	Design and analyze advanced tree and graph algorithms, including balanced search trees and graph traversal methods, to address real-world applications.

Course Structure

		No. of Lecture Hours	No. of Tutorial Hours	No. of Practical Hours
Module 1 - Search Trees and Balanced Trees				
1.1	Search Trees: Two Models of Search Trees. General Properties and Transformations. Height of a Search Tree. Basic Find, Insert, and Delete. Returning from Leaf to Root. Dealing with Non unique Keys. Queries for the Keys in an Interval. Building Optimal Search Trees. Converting Trees into Lists. Removing a Tree.	5	-	-
1.2	Balanced Search Trees: Height-Balanced Trees. Weight-Balanced Trees. (a, b)- And B-Trees. Red-Black Trees and Trees of Almost Optimal Height. Top-Down Rebalancing for Red-Black Trees.	3	-	-
Module 2 - Tree Structures for Intervals and Ranges				
2.1	Tree Structures for Sets of Intervals. Interval Trees. Segment Trees. Trees for the Union of Intervals. Trees for Sums of Weighted Interval. Trees for Interval-Restricted Maximum Sum Queries. Orthogonal Range Trees. Higher-Dimensional Segment Trees. Other Systems of Building Blocks. Range-Counting and the Semigroup Model. Kd-Trees and Related Structures.	8	-	-
Module 3– Heap Structures				
3.1	Heaps: Balanced Search Trees as Heaps. Array-Based Heaps. Heap-Ordered Trees and Half Ordered Trees. Leftist Heaps. Skew Heaps. Binomial Heaps. Changing Keys in Heaps. Fibonacci Heaps. Heaps of Optimal Complexity. Double-Ended Heap Structures and Multidimensional Heaps. Heap-Related Structures with Constant-Time Updates.	8	-	-
Module 4 - Graph Algorithms				
4.1	Graph Algorithms: Bellman - Ford Algorithm; Single source shortest paths in a DAG; Johnson's Algorithm for sparse graphs; Flow networks and Ford-Fulkerson method; Maximum bipartite matching. Polynomials and the FFT: Representation of polynomials; The DFT and FFT; Efficient implementation of FFT.	8	-	-
Module 5 - String-Matching Algorithms				
5.1	String-Matching Algorithms: Naïve string Matching; Rabin - Karp algorithm; String matching with finite automata; Knuth-Morris-Pratt algorithm; Boyer – Moore algorithms.	8	-	-
	Total No. of Lecture Hours	**40**	-	-
	Total No. of Tutorial Hours		**00**	**-**
	Total No. of Practical Hours			**00**

Textbook/s:

1. Advanced Data Structures, Peter Brass, Cambridge University Press, 2008.
2. Algorithms, Kenneth A. Berman, Cengage Learning, 2002.
3. Introduction to Algorithms, T. H Cormen, C E Leiserson, R L Rivest and C Stein, PHI, 3rdEdition, 2010.

Reference Book/s:

1. Data Structures and Algorithm Analysis in C++, Mark Allen Weiss, 4thEdition, 2014, Pearson.
2. Fundamentals of Computer Algorithms, Ellis Horowitz, SartajSahni, S.Rajasekharan Universities press. 2ndEdition, 2007.

Online Resources:

1. IITM Course link: http://nsm.iitm.ac.in/cse/services/adv_dsa/
2. MIT OpenCourseWare Course Link: https://ocw.mit.edu/courses/6-851-advanced-data-structures-spring-2012/

Course: MCS104F **Course: Internet of Things**
Credits: 4 **L:P:T - 3:2:0**
SEE:50 Marks **CIE: 50 Marks**
SEE Hours: 3 **Total Marks: 100**

Prerequisites if any	Fundamentals of Networking and Basic Programming Languages (C, C++ &Python)
Learning objectives	• Explore the knowledge on combination of functionalities and services of networking • Explain the definition and significance of the Internet of Things. • Discuss the architecture, operation and business benefits of an IoT solution..

Course Outcomes:

On the successful completion of the course, the student will be able to

COs	Course Outcomes
CO1	Choose appropriate schemes for the applications of IOT in real time scenarios
CO2	Manage the Internet resources through different protocols used in each layer
CO3	Compare various protocols and algorithms in different layers that facilitate effective communication mechanisms
CO4	Identify how IoT differs from traditional data collection systems

Mapping with POs and PSOs:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12		PSO1	PSO2
CO1	3	3	3	1				1	1	1		1		1	2
CO2	3	3	3	1				1	1	1		1		1	2
CO3	3	3	3	1	1			1	1	1		1		1	2
CO4	3	3	3	1		1	1	1	1	1		1		1	2
CO5	3	3	3	1				1	1	1		1		1	2

Mapping Strength: Strong– 3 Medium – 2 Low – 1

Course Structure

		No. of Lecture Hours	No. of Tutorial Hours	No. of Practical Hours
Module 1 - What is The Internet of Things?				
1.1	What is The Internet of Things? Overview and Motivations, Examples of Applications, IPV6 Role, Areas of Development and Standardization, Scope of the Present Investigation.	2	-	-
1.2	Internet of Things Definitions and frameworks-IoT Definitions, IoT Frameworks, Basic Nodal Capabilities	1	-	-
1.3	Internet of Things Application Examples-Overview, Smart Metering/Advanced Metering Infrastructure-Health/Body Area Networks, City Automation	2	-	-
1.4	Automotive Applications, Home Automation, Smart Cards	2	-	-
1.5	Tracking OverThe-Air-Passive Surveillance/Ring of Steel, Control Application Examples, Myriad Other Applications.	1	-	-
Module 2 - Fundamental IoT Mechanism and Key Technologies				
2.1	Fundamental IoT Mechanism and Key Technologies-Identification of IoT Object and Services, Structural Aspects of the IoT	2	-	-
2.2	Key IoT Technologies. Evolving IoT Standards Overview and Approaches	1	-	-
2.3	IETF IPV6 Routing Protocol for RPL Roll, Constrained Application Protocol, Representational State Transfer, ETSI M2M	2	-	-
2.4	Third Generation Partnership Project Service Requirements for Machine-Type Communications	2	-	-

2.5	IETF IPv6 Over Low power WPAN, Zigbee IP(ZIP),IPSO	1	-	-
Module 3– Layer ½ Connectivity				
3.1	Wireless Technologies for the IoT-WPAN Technologies for IoT/M2M	2	-	-
3.2	Cellular and Mobile Network Technologies for IoT/M2M	2	-	-
3.3	Layer 3 Connectivity:IPv6 Technologies for the IoT: Overview and Motivations. Address Capabilities, IPv6 Protocol Overview, IPv6 Tunneling, IPsec in IPv6	2	-	-
3.4	Header Compression Schemes, Quality of Service in IPv6, Migration Strategies to IPv6	2	-	-
Module 4 - Case Studies illustrating IoT Design				
4.1	Case Studies illustrating IoT Design-Introduction	2	-	-
4.2	Home Automation	2	-	-
4.3	Cities, Environment	2	-	-
4.4	Agriculture., Productivity Applications	2	-	-
Module 5 - Data Analytics for IoT				
5.1	Data Analytics for IoT – Introduction, Apache Hadoop, Using Hadoop MapReduce for Batch Data Analysis,	2	-	-
5.2	Apache Oozie, Apache Spark,	2	-	-
5.3	Apache Storm	1	-	-
5.4	Using Apache Storm for Realtime Data Analysis, Structural Health Monitoring Case Study	3	-	-
LAB PROGRAMS				
1	Simulating IoT Sensor Data (Temperature & Humidity)	-	-	1
2	Sending IoT Data to a Cloud Server (HTTP POST Request)	-	-	1
3	Receiving IoT Data from a Cloud Server (HTTP GET Request)	-	-	1
4	Publishing Sensor Data using MQTT Protocol	-	-	1
5	Subscribing to IoT Sensor Data using MQTT	-	-	1
6	Simulating a Smart Home Light Control System	-	-	1
7	IoT Data Logging (Saving Sensor Data to a File)	-	-	1
8	IoT Data Visualization using Matplotlib	-	-	1
9	IoT-Based Motion Detection using Random Simulated Data	-	-	1
10	IoT Chatbot for Device Control	-	-	1
	Total No. of Lecture Hours	**40**	-	-
	Total No. of Tutorial Hours		**00**	**-**
	Total No. of Practical Hours			**10**

Textbooks:

1. Building the Internet of Things with IPv6 and MIPv6: The Evolving World of M2M Communications Daniel Minoli Wiley 2013
2. Internet of Things: A Hands-on Approach ArshdeepBahga, Vijay Madisetti Universities Press 2015
3. The Internet of Things Michael Miller Pearson 2015 First Edition
4. Designing Connected Products Claire Rowland,Elizabeth Goodman et.al O'Reilly First Edition, 2015

Reference Book:

1. David Hanes, Gonzalo Salgueiro, Rob Barton " IoT Fundamentals: Networking Technologies, Protocols and Use Cases for the Internet of Things", 2019

2. Srinivasa K G, “Internet of Things”, CENGAGE Leaning India, 2017

Online Resources:

- https://www.javatpoint.com/iot-internet-of-things
- https://onlinecourses.nptel.ac.in/noc21_cs17/preview

Course: MCS105F **Course: Advanced Operating System**
Credits: 3 **L:P:T - 3:0:0**
SEE: 50 Marks **CIE: 50 Marks**
SEE Hours: 3 **Total Marks: 100**

Prerequisites if any	Data Structures and Algorithms
Learning objectives	• Independently solve advanced operating system issues, delivering clear technical presentations to diverse audiences. • Master advanced concepts, analyze complex problems, collaborate effectively, and continuously develop in the field. • Implementation of distributed shared memory, recovery and commit protocols, Identify the components and management aspects of Real time.

Course Outcomes:

On the successful completion of the course, the student will be able to

COs	Course Outcomes
CO1	To understand the objectives and functions of operating systems, including their evolution and security issues related to processes..
CO2	To analyze processes and threads, including symmetric multiprocessing (SMP) and memory management in Windows Vista and UNIX systems.
CO3	To evaluate multiprocessor scheduling and real-time scheduling techniques, including process migration and distributed systems concepts.
CO4	To explore the characteristics of embedded operating systems and understand computer security concepts, including threats and malicious software

Course Structure

		No. of Lecture Hours	No. of Tutorial Hours	No. of Practical Hours
Module 1				
1.1	Operating System Overview, Process description & Control: Operating System Objectives and Functions, The Evolution of Operating Systems, Major Achievements, Developments Leading to Modern Operating Systems, Microsoft Windows Overview, Traditional UNIX Systems, Modern UNIX Systems.	5	-	-
1.2	What is a Process?, Process States, Process Description, Process Control, Execution of the Operating System, Security Issues.	3	-	-
Module 2				
2.1	Threads, SMP, and Microkernel, Virtual Memory: Processes and Threads, Symmetric Multiprocessing (SMP), Micro Kernels, Windows Vista Thread and SMP Hours Management, Linux Process and Thread Management. Hardware and Control Structures, Operating System Software, UNIX Memory Management, Windows Vista Memory Management, Summary	8	-	-
Module 3				
3.1	Multiprocessor and Real-Time Scheduling: Multiprocessor Scheduling, Real-Time Scheduling, Linux Scheduling, UNIX FreeBSD Scheduling, Windows Vista Hours Scheduling, Process Migration, Distributed Global States, Distributed Mutual Exclusion, Distributed Deadlock	8	-	-
Module 4				
4.1	Embedded Operating Systems: Embedded Systems, Characteristics of Embedded Operating Systems, eCOS, TinyOS, Computer Security Concepts, Threats, Attacks, and Assets, Intruders, Malicious Software Overview, Viruses, Worms, and Bots, Rootkits.	8	-	-
Module 5				
5.1	Kernel Organization: Using Kernel Services, Daemons, Starting the Kernel, Control in the Machine , Modules and Device Management, MODULE Organization, MODULE Installation and Removal, Process and Resource Management, Running Process Manager, Creating a new Task , IPC and Synchronization, The Scheduler ,	8	-	-

	Memory Manager , The Virtual Address Space, The Page Fault Handler , File Management. The windows NT/2000/XP kernel: Introduction, The NT kernel, Objects , Threads, Multiplication Synchronization, Traps, Interrupts and Exceptions, The NT executive , Object Manager, Process and Thread Manager , Virtual Memory Manager, I/o Manager, The cache Manager Kernel local procedure calls and IPC, The native API, subsystems.			
		Total No. of Lecture Hours	**40**	-	-
			Total No. of Tutorial Hours	**00**	**-**
				Total No. of Practical Hours	**00**

Textbook/s:

1. Operating Systems: Internals and Design Principles William Stallings Prentice Hall, 6th Edition 2013

2. Operating Systems: Gary Nutt, Pearson Pearson, 3rd Edition 2014

Reference Book/s:

1. Operating System Concepts: Silberschatz, Galvin, Gagne Wiley, 8th Edition 2008.
2. Operating Systems, Design and Implementation: Andrew S. Tanenbaum, Albert S. Woodhull, Prentice Hall, 3rd Edition 2006.
3. Distribute Operating Systems: Concept and Design Pradeep K Sinha PHI 2007.

Online Resources:

1. IITM Course link: https://www.cse.iitm.ac.in/~chester/courses/15o_os/index.html
2. MIT OpenCourseWare Course Link: https://ocw.mit.edu/courses/6-828-operating-system-engineering-fall-2012/

Course: MCSL106 **Course: Algorithms & AI Lab**
Credits: 2 **L:P:T - 0:4:0**
SEE: 50Marks **CIE:50 Marks**
SEE Hours: 3 **Total Marks: 100**

Prerequisites if any	Statistics, Probability and Linear Algebra
Learning objectives	• Implement and evaluate Algorithm and AI in Python programming language

Laboratory outcome

On the successful completion of the course, the student will be able to

COs	Course Outcomes
CO1	Implement and demonstrate AI algorithms.
CO2	Evaluate different algorithms.

Programs List:

1.	Implement a simple linear regression algorithm to predict a continuous target variable based on a given dataset.
2.	Develop a program to implement a Support Vector Machine for binary classification. Use a sample dataset and visualize the decision boundary.
3.	Develop a simple case-based reasoning system that stores instances of past cases. Implement a retrieval method to find the most similar cases and make predictions based on them.
4.	Write a program to demonstrate the ID3 decision tree algorithm using an appropriate dataset for classification.
5.	Build an Artificial Neural Network by implementing the Backpropagation algorithm and test it with suitable datasets.
6.	Implement a KNN algorithm for regression tasks instead of classification. Use a small dataset, and predict continuous values based on the average of the nearest neighbors.
7.	Create a program that calculates different distance metrics (Euclidean and Manhattan) between two points in a dataset. Allow the user to input two points and display the calculated distances.
8.	Implement the k-Nearest Neighbor algorithm to classify the Iris dataset, printing both correct and incorrect predictions.
9.	Develop a program to implement the non-parametric Locally Weighted Regression algorithm, fitting data points and visualizing results.
10.	Implement a Q-learning algorithm to navigate a simple grid environment, defining the reward structure and analyzing agent performance.