

Pioneers of COMPUTER

Level 10

Microsoft
Windows^{XP}

Windows 7

Windows 8

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Introduction

Dear Teachers,

I introduce in this book my humble contribution in order to help you cope with the latest developments in the second millennium, taking into consideration the needs of our dear students, who will be the leaders of the future and a new generation that will make the necessary changes for the interest of humanity. Therefore, I have adopted in my series the latest educational strategies based on ERFKE so as to create the proper educational environment, and build a generation that will be able to cope with information technology, and face the challenges imposed by the accelerating growth in the acquisition of information and skills, and to progress steadily toward employing technology in education. I strongly believe that students have the ability to promote progress in the country and achieve the aspirations of the nation by applying up-to-date methods which support the student and make him or her the core of the educational process. Development processes require more efficient roles in preparing and planning in the field of education, and using various proper educational resources and aids, and giving students chances to freely express their opinions through democratic and independent channels.

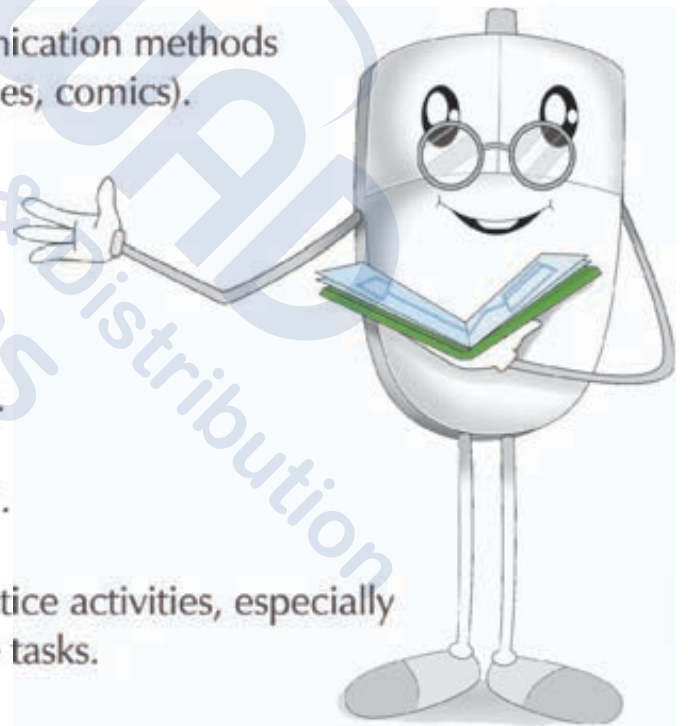
Dear Teachers,

Notice that the programs in this book are authorized in all publications and meet all specifications set by Microsoft. The materials included can be enriched by educational and recreational programs.

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Teacher's role in the teaching processes

- You're the leader.
- Listen to your student and let him express his own opinion.
- Encourage your student to participate, and ask him to try again when he makes a mistake.
- Encourage self-assessment.
- You're the guide. Let your students practice about 75% of the time of the lesson.
- Encourage your students to use co-operative activities.
- Listen to your students. Vary your communication methods (Facilities, such as diagrams, figures, puzzles, comics).
- Use available technology as learning tools.
- Explain the lesson in short steps.
- Evaluate continuously their understanding.
- Use the work sheets to enrich the material.
- Give enough time to your students to practice activities, especially to students with special needs to finish the tasks.



Artificial Intelligent



The concept of Artificial Intelligent has appeared in the fifties as a result of the revolution, that happened in the field of information technology and automatic control.

Artificial intelligence aims to achieve two main objectives: first is to reach deep understanding of the human intelligence by communicating with it. Second is to maximize the usage of computers capabilities, after the continuous improvement of the computers ability and its lower cost.

Specific Outcomes

After the end of this chapter students should be able to:

- ❖ Understand Artificial Intelligence.
- ❖ Understand Artificial Intelligence features and characters.
- ❖ Understand Artificial Intelligence programming languages.
- ❖ Distinguish between Artificial Intelligence programming languages and the ordinary programming languages.
- ❖ State the areas of Artificial Intelligence.
- ❖ Define robotics.
- ❖ Define expert systems.
- ❖ Learn robotics tasks.
- ❖ Understand expert systems building steps.
- ❖ State robotics features.

Artificial Intelligence

First: Artificial Intelligence

It's one of the computer science fields that specializes in the industrial engineering, which is known as Intelligent Machines. Where the artificial intelligence has been built based on the descriptions and the interactions of human intelligence (human behavior) for the smart machines systems and equipments.

Second: Artificial Intelligence features

Artificial Intelligence creates challenges and inspiration to computer engineering scientists, and their on-going trials to use some of human being abilities. So, the question is: are there any limits for the machine intelligence? and is there a main difference between human intelligence and artificial intelligence? And is it possible that a machine can have a brain and understanding? Artificial intelligence has a number of features and abilities to do some tasks such as:

1. Flexible Response.
2. Learning and understanding previous problems.
3. Problem solving even if some data has been missed.
4. Recognizing conflicted and mysterious sentences and expressions.
5. Ability to create and imagine.
6. Quick response and reactions.
7. Understanding and analyzing images.
8. Playing games
9. Distinguishing different types of signs among similar situations.



Activity Artificial intelligence features

State three of the Artificial Intelligence features were not mentioned in this lesson.

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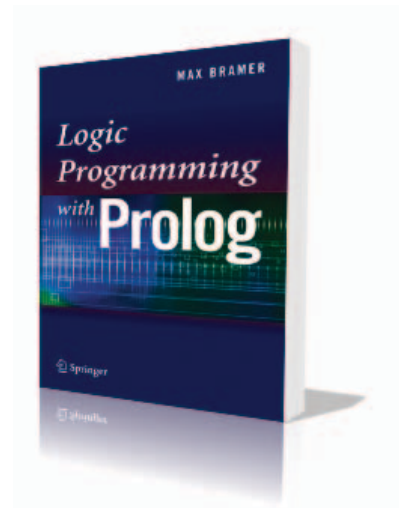
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Third: Artificial Intelligence Programming Languages

Artificial Intelligence programming languages differ from the rest of programming languages in its ability to use logical expressions instead of orders and instructions. Some of these languages are:

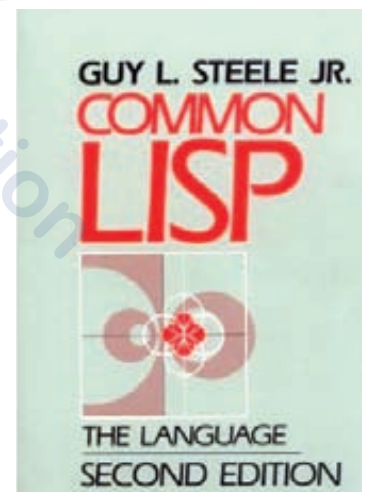
1. Prolog: which is considered to be one of the well known Artificial Intelligence languages, where it was designed to be used in building natural languages processing programs. Prolog considered logic programming, and its name was originated from the French language (programmation enoique).



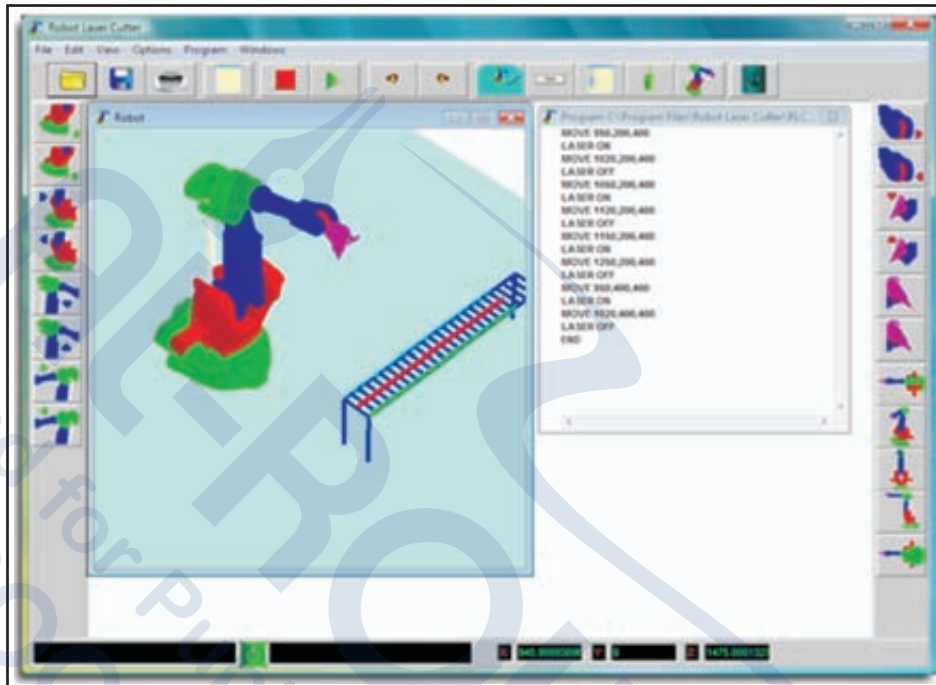
2. IPL language: is the first language designed for Artificial Intelligence applications. And it is used to support programs for general problem solution such as lists, correlated ideas, plans, specializing memory movement, data types, self recall, linked retrieve, and tasks such as, electrical generators, (currents) and doing different tasks in a harmonic way.



3. LISP language: it is a mathematical practical system for a computer program built based on lambda calculus. Where it uses the linked lists which is considered to be one of the Lisp language main data hierarchal. However, this language let the programmers create new structures or imbedded specialized programming into the language.



4. STRIPS: it is a language used to express the procedure of automatic planning for problems. Where it articulate the assigned task of the first situation, such as target situation, and a group of decisions made to start the mission.



5. Other languages: used for the Artificial Intelligent applications such as C++, Lush, and MathLab.



Artificial intelligence programming languages:

State the programming language described as the following:

- A computer program based on mathematical practical system language and built on the base of lambda calculus is called ()
- A language that has been used in natural languages processing program is ()
- A language that has been used to express problem automatic planning called ()
- A language that has been used to support general problem solution program such as lists, linked ideas ()

Q 1. The definition of Artificial Intelligence is:

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Q 2. State four features of the Artificial Intelligence.

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Q 3. State four languages of the Artificial Intelligence.

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Q 4. Is there a limit for the machine intelligence?

Q 5. Is there a main difference between human intelligence and artificial intelligence?

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Q 6. Is it possible for a machine to have a brain and an understanding?

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Q 7. How do ordinary programming languages differ from Artificial Intelligence programming languages.

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