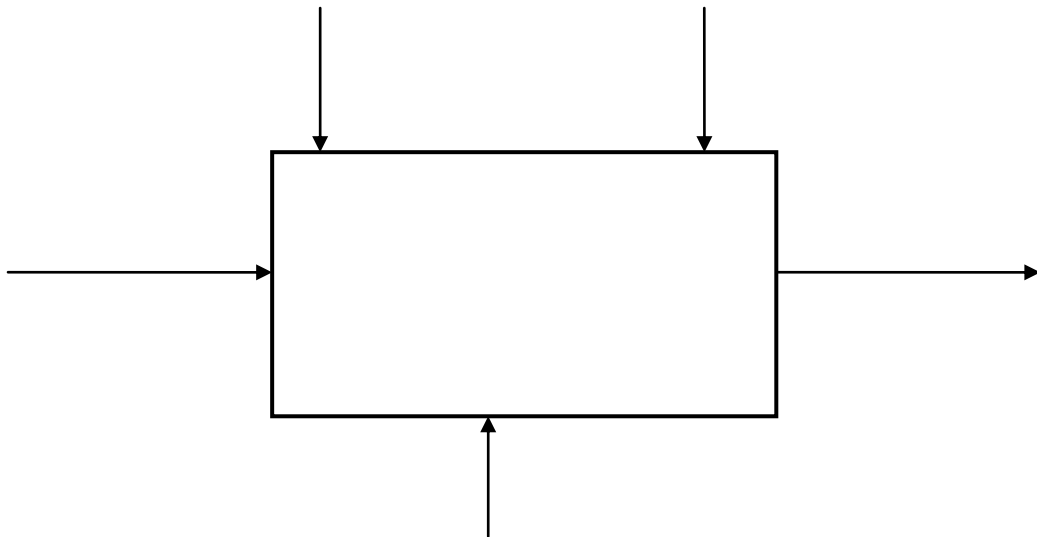
	Name :	Date :	
	<div>Robotic</div>	Course	<u>Note :</u>
		1 <sup>ère</sup> – T <sup>ale</sup>	
		Page 1 on 4	

## What is a robot?

There's no precise definition, but by general agreement a robot is a programmable machine that imitates the actions or appearance of an intelligent creature—usually a human. To qualify as a robot, a machine has to be able to do two things: 1) get information from its surroundings, and 2) do something physical—such as move or manipulate objects.

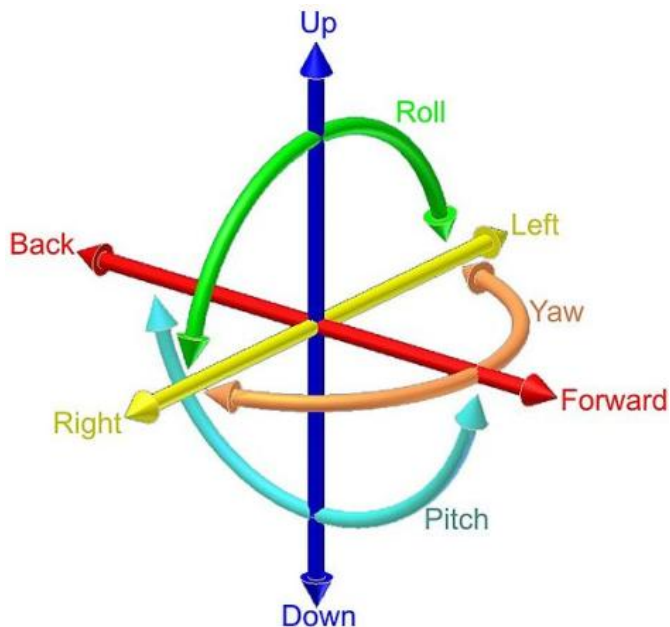
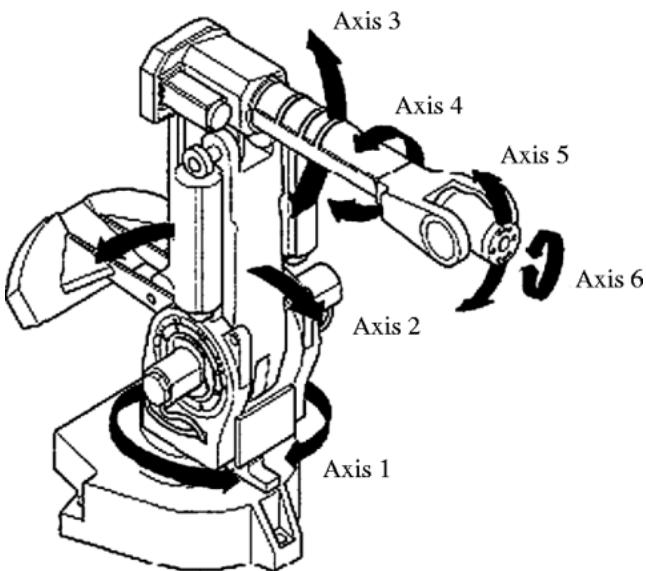
The word robot comes from the Czech word robota, meaning drudgery or slave-like labor. It was first used to describe fabricated workers in a fictional 1920s play by Czech author Karel Capek called Rossum's Universal Robots. In the story, a scientist invents robots to help people by performing simple, repetitive tasks. However, once the robots are used to fight wars, they turn on their human owners and take over the world.


## Functional Analysis

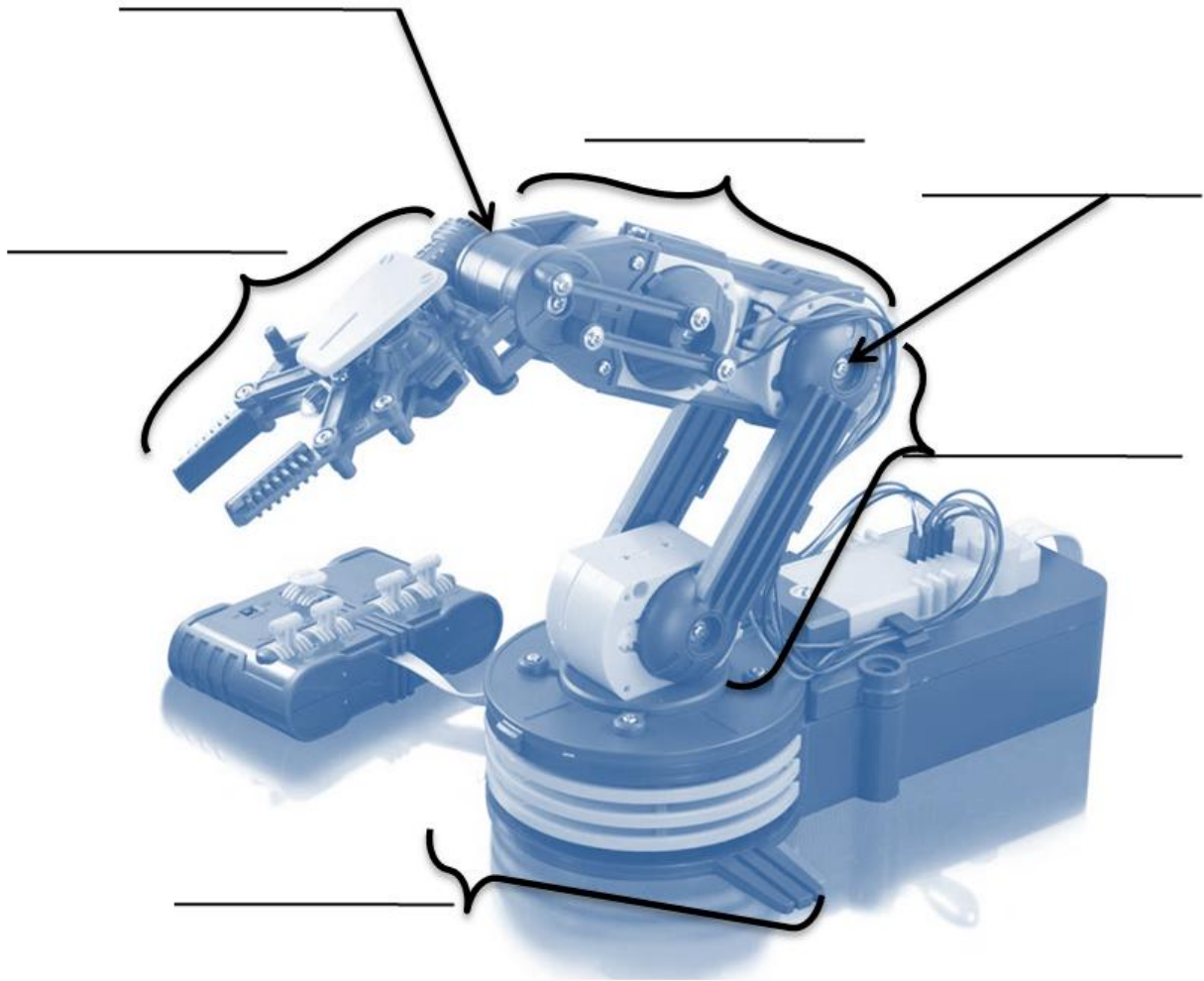


Is it a close loop system or a one way system, why?

## Constitution:

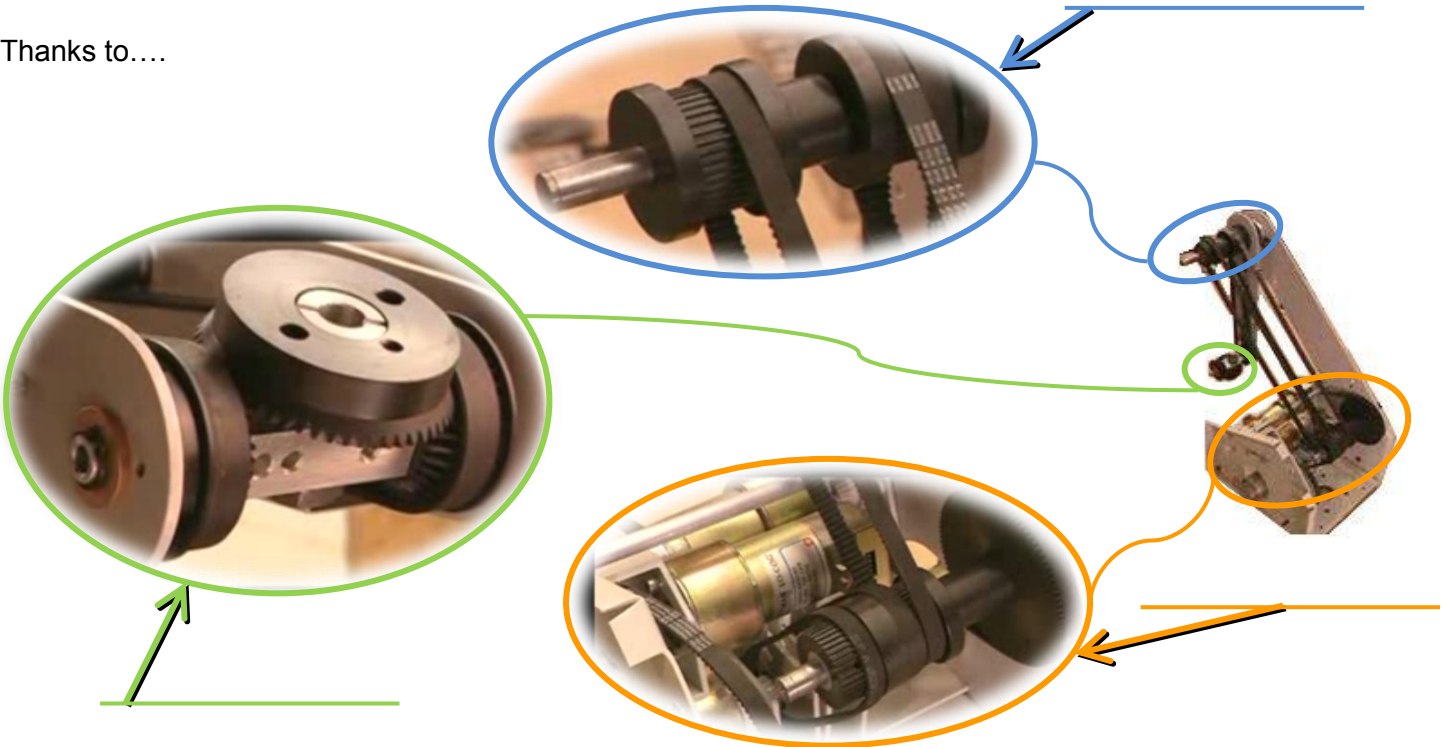



	Name :	Date :	
	<div>Robotic</div>	Course	<u>Note :</u>
		1 <sup>ère</sup> - T <sup>ale</sup>	
		Page 2 on 4	



How to manage the different motions:

Thanks to....



	Name :	Date :	
	Robotic	Course	<i>Note :</i>
		1 <sup>ère</sup> – T <sup>ale</sup>	
		Page 3 on 4	

## Comprehension (about the text next page):

### 1. Focus on the bottom of the advert

- Find where the company which manufactures these robots is located.
- This document is an advert which was published in a magazine. Find when this issue was published.

An advertising / an advert / an ad / to advertise

### 2. Focus on the paragraph starting with “With prices started below £1000...”

- Find expressions showing that these robots are good quality and cheap.
- True or false? Justify with a quote from the advert:
  - a) Heavy weights can be moved gently with Genesis robot.
  - b) A maximum of 6 axes can be added to the robot.

### 3. In this paragraph, find words or expressions synonymous to (in the order of the text):

**Under:** \_\_\_\_\_

**Allows:** \_\_\_\_\_

**Offer:** \_\_\_\_\_

**Thanks to:** \_\_\_\_\_

**At the same time:** \_\_\_\_\_

**Or** \_\_\_\_\_

**Energy:** \_\_\_\_\_

**A remote control:** \_\_\_\_\_

### 4. Prices and specification

a) Write down the prices in full letters for the Genesis S101:

- £390:
- £445:
- £790:

b) Read aloud the prices of the different models of Genesis S101.

### 5. Weight and pounds

- 1 pound is equivalent to
- 1 sterling pound is equivalent to
- 1” is equivalent to





Name :

Robotic

Date :

Course

Note :

1<sup>ère</sup> - 1<sup>ale</sup>

Page 4 on 4

# New developments in UK Robotics

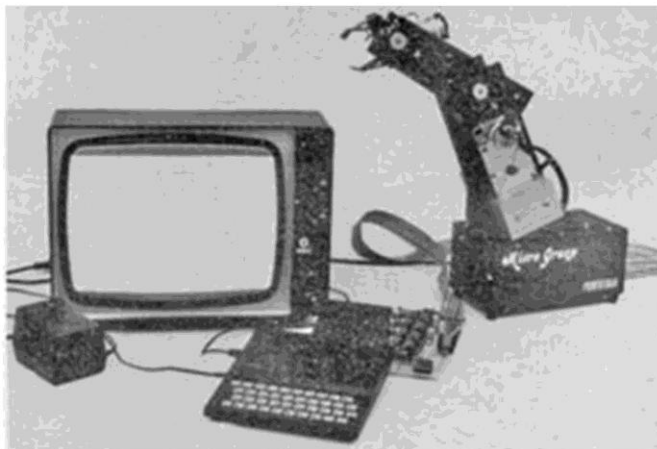
## ADVANCED DESIGNS FOR EDUCATION, INDUSTRY AND THE HOME CONSTRUCTOR

Robotic experience is becoming as essential a subject as computing. MICROGRASP provides the lowest cost means of acquiring that experience but despite its ultra low price the robot has considerable versatility. There are 5 axes each using a servo motor and there is feedback from each of the arm movements. Control is by any computer with an expansion bus – the ZX81 being particularly suitable. Servoing is achieved with hardware on the interface board to keep programming simple and the robot is operated under BASIC commands with no computer specific software required. The interface board is memory mapped using only 64 bytes at any of 1024 switch selectable locations.

MICROGRASP robot kit with power supply £125.00  
Universal computer interface board kit £48.50  
23 way edge connector £2.50  
ZX81 peripheral/RAM Pack splitter board £3.00

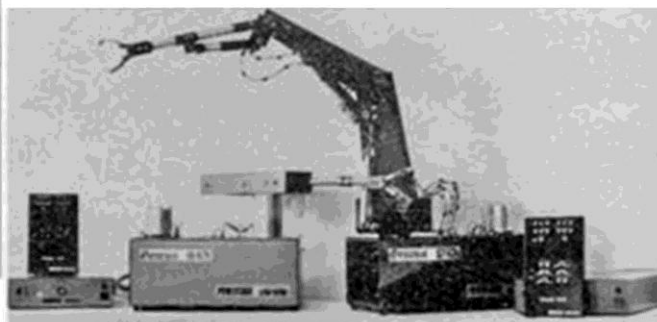
HEBOT II is a turtle-type robot which takes programming out of the two dimensional world of the VDU into the real three dimensional world. Given a Dc supply of 9-15V it can perform a bewildering number of moves under computer control – forwards, backwards, left and right – with each wheel independently controlled. It has blinking eyes, bleeps with a choice of two tones and has a solenoid operated pen to chart its progress. Touch sensors coupled to its shell returns data, about its environment, to the computer for it to calculate evasive or exploratory action. HEBOT II connects the directly to an I/O port or alternatively with the universal interface board to the expansion bus of a ZX81 or other computer.

HEBOT II kit £75.00  
Universal computer interfaced board £10.00  
23 way edge connector £2.50  
ZX81 peripheral/RAM Pack splitter board £3.00



MICROGRASP INTERFACE BOARD AND ZX81

## 'HIGH-TECH' FROM HANTS...



GENESIS S101 AND GENESIS P101 WITH PROCESSOR BOXES AND HAND-HELD CONTROLLERS

With prices started below £1,000 the genesis range of general purpose robots provide a first rate introduction to robotics for both education and industry. Each has a self-contained hydraulic power source, which enables loads of several pounds to be smoothly handled. The system operates from a single phase 240 or 120V AC supply or a 12V DC supply. The machine can be supplied with up to 6 axes each of which is fully independent but capable of simultaneous operation. Position control is achieved by means of closed-loop feedback system based around a dedicated microprocessor. Movements sequences can be entered, stored and replayed by use of a hand held controller, alternatively the systems can also be interfaced to an external computer via a standard RS 232C link.

### Example prices and specifications

#### Genesis S101

Base: 19.5" x 11" x 7.5"

Lifting capacity: 1500gm

Arm lift: 6.6"

Weight: 29 Kg

4 axis model in kit form £390

5 axis model in kit form £445

5 axis model READY BUILT £790

#### Genesis P101

Base: 19.5" x 11" x 7.5"

Lifting capacity: 2000gm

Arm lengths between axes: 14.0"

Weight: 34 Kg

4 axis model in kit form £495

6 axis model in kit form £595

6 axis model READY BUILT £950

### COMPLETE SYSTEMS AS SHOWN IN PHOTOGRAPH ABOVE

#### Genesis S101

4 axis model in kit form £635.50

5 axis model in kit form £695.00

5 axis model READY BUILT

£1355.00

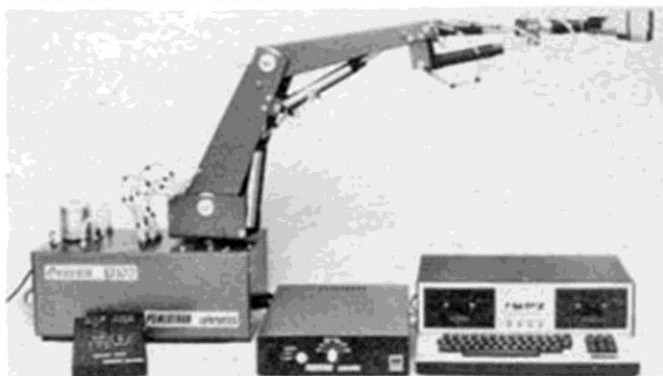
#### Genesis P101

4 axis model in kit form £742.00

6 axis model in kit form £852.00

6 axis model READY BUILT

£1625.00



GENESIS P102 PROCESSOR BOX, HAND HELD CONTROLLER AND CORTEX COMPUTER

Top of the range is the Genesis P102 which has a dual speed control, continuous servo operation and double acting cylinders for increasing torque on the wrist and arm rotation joints. The microprocessor based control system has additional memory, position interrogation via the RS232C interface increasing the versatility of computer control and inputs are provided for machine tool interfacing.

6 axis system READY BUILT £1950.00  
Powertran CORTEX 16 bit 64K computer Kit £295.00 Ready built £395.00  
(Electronic Today International December issue on CORTEX)

**POWERTRAN**

cybernetics

As featured in this journal November '81-April '82 issues.

**ALL PRICES EXCLUSIVE OF VAT**

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