



**Capítulo 06**  
**Exercício 2**  
Estrutura de Progama



**IRC5 Programação  
Básica**



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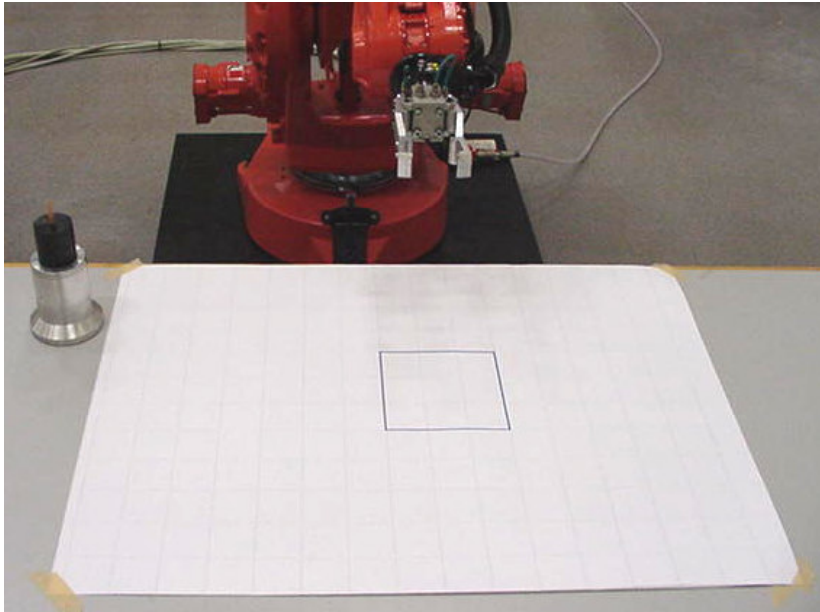
## Tópicos



- Definir TCP método 4 pontos
- Criar um programa utilizando Método JSP
- Adicionar Rotinas
- Robot Studio online



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**Exercício 2 Estrutura de Programa**



Um quadrado é desenhado no Papel.



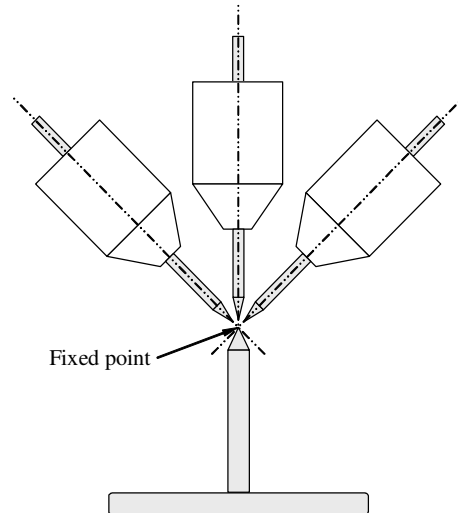
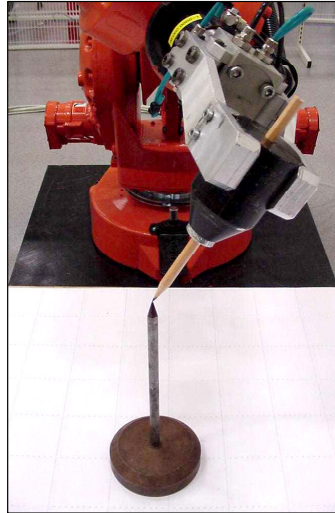
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## Exercício 2 TCP – Método 4 pontos



### ■ tPen



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## Exercise 2A – Define a Tool, 4-point Method

- Step-by-Redefine tPen usando (4-point method)
- ‘
  - Testar tool (tPen)

Point	Status
Point 1	Modified
Point 2	Modified
Point 3	-
Point 4	-

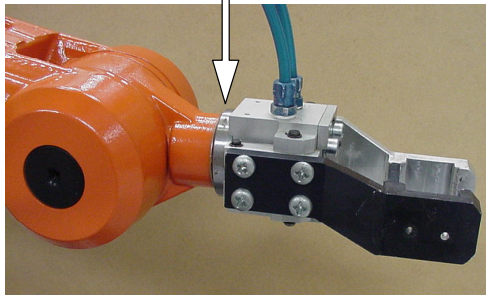
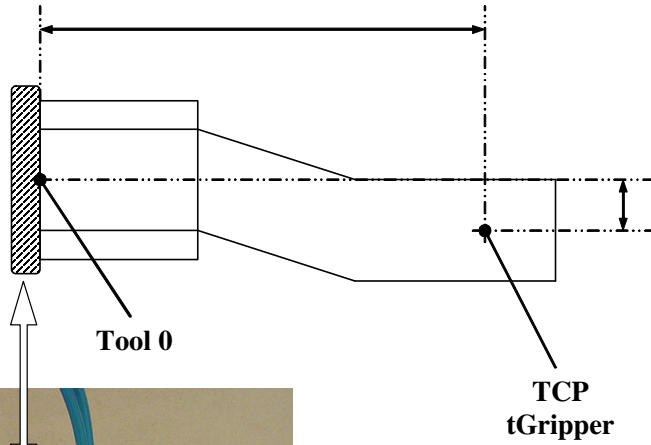
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## Exercise 2A – Define a Tool



### ■ tGripper



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**ABB**



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## Exercício 2A – Tools



# Tempo para exercício

2A

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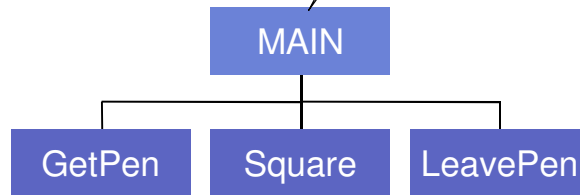
## Exercício 2 Método JPS



### ■ JSP :

- Estruturado
- Rotinas bem elaboradas
  - fácil para testar
- - fácil de alterar
- Leitura fácil Main program (proc main)

```
1  
2 MODULE MainModule  
3   PROC main()  
4     GetPen;  
5     Square;  
6     LeavePen;  
7   ENDPROC  
8  
9   PROC GetPen()  
10
```







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## Exercício 2 Método JPS



- Criação de programas e rotinas
- Execução de rotinas separadamente
- Teste main program

The screenshot shows the ABB robot programming software interface. The top bar displays 'Manual' and 'Guard Stop Stopped (Speed 100%)'. The main window is titled 'Exercise2 in T\_ROB1/MainModule/GetPen'. The code editor shows the following code:

```
7 PROC main()  
8   MoveL p40, v1000, z50  
9   MoveL p50, v1000, z50  
10  MoveL p60, v1000, z50  
11  ENDPROC  
12  
13 PROC GetPen()  
14   MoveL pGripPen, v1000  
15  ENDPROC  
16  
17 PROC LeavPen()  
18  ENDPROC
```

The code editor has a toolbar with buttons for 'Add Instruction', 'Edit', 'Debug', 'Modify Position', and 'Hide Declarations'. The 'Debug' button is highlighted. The 'MainModule' is selected in the 'Program Data' field.

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## Exercício 2C Instrução de repetição FOR



- FOR é usado para repetir rotinas/instruções um certo numero de vezes.
- For, permite modificar facilmente a quantidade de repetições desejada.

```
PROC main()  
  GetPen;  
  Square;  
  Square;  
  Square;  
  LeavePen;  
ENDPROC
```

```
PROC main()  
  GetPen;  
  FOR i FROM 1 TO 3 DO  
    Square;  
  ENDFOR  
  LeavePen;  
ENDPROC
```



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## Exercício 2C Instrução de repetição FOR



### ■ FOR

```
5 FOR i FROM 1 TO 5 DO  
  rutin1;  
ENDFOR
```

```
8 FOR i FROM 1 TO 8 DO  
  MoveJ ..... ;  
  MoveJ ..... ;  
  WaitTime..... ;  
  MoveJ ..... ;  
  ... ;  
ENDFOR
```

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**ABB**



## Exercícios



# Tempo para Exercícios