

## PC2 - EA044

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Algoritmo branch and bound utilizando octave e o pacote optim (que possui a função linprog para resolver problemas de programação linear).

### Modo de usar

É possível utilizar o algoritmo rodando o arquivo `main.m` através da linha de comando ou pela interface gráfica do octave e dar as entradas como pedido pelo programa. Alternativamente é possível colocar as entradas em um arquivo de texto e executar o comando `octave main.m < <file>` onde `<file>` é o arquivo com as entradas. Exemplo do arquivo de texto com as entradas:

```
[-2; -1]    % coefficients of the function to be minimized
[2 1; 1 1]  % matrix of coefficients of the LHS of the constraints
[50; 25]    % RHS of the constraints, one per line
```

### Exemplo

```
octave main.m < tests/test2.m
```

Enter the coefficients of the function to minimize in the form of a column vector:

f =

```
-8
-5
```

Enter the coefficients of the left hand side of the constraints in the form of an array with one constraint per line:

A =

```
1  1
9  5
```

Enter the right hand side of the constraints in the form of a column vector:

B =

```
6
45
```

Variables values:

```
5
0
```

Iterations: 5

Value of the optimal solution: -40

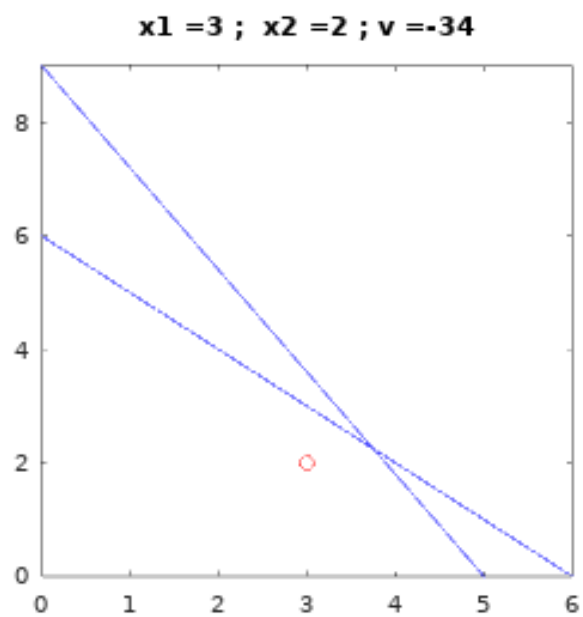
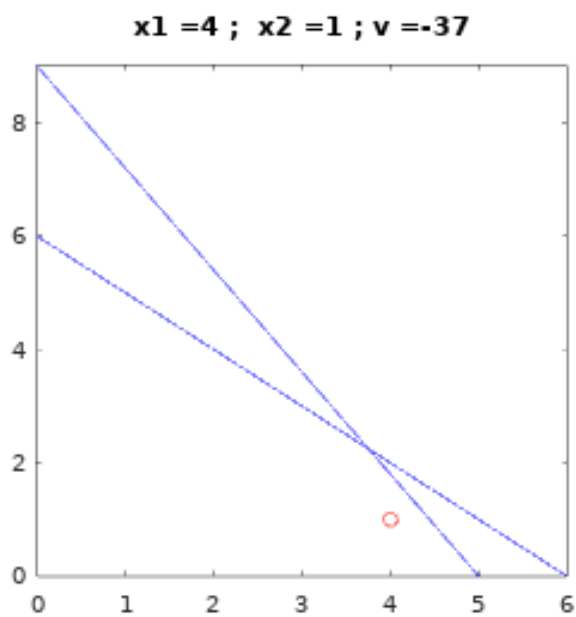
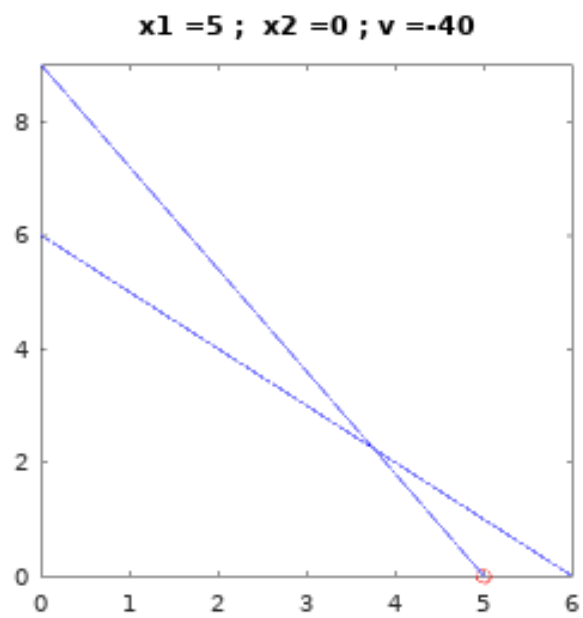
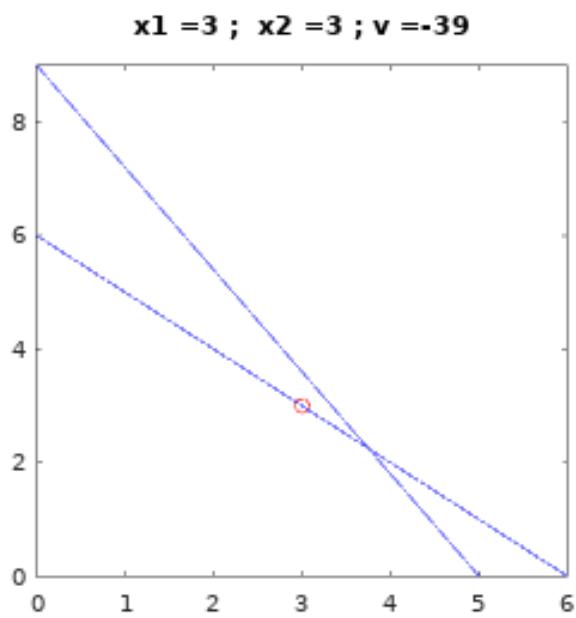


Figure 1: graphical solution