

PULITO

COLLABORATORS

	<i>TITLE :</i> PULITO		
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Chapter 1

PULITO

1.1 PULITO© v1.0 beta

```

                P P P P P   U   U   L   I I I I I   T T T T T   O O O
P   P   U   U   L   I   T   O   O
P   P   U   U   L   I   T   O   O
P P P P P   U   U   L   I   T   O   O
P       U   U   L   I   T   O   O
P       U   U   L   L   I   T   O   O
P       U U U U U   L L L L L   I I I I I   T   O O O

```

```

                PULITO©
v1.0 beta (25-7-1996)
by
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```

What is

Requirements

How use it

Copyrights

Aknowledgements

Greetings

Music?

1.2 What is

Is a program to solve linear and integer linear programming problems using the simplex algorithm in tableau shape. Although it was created appositely to help the students of an Operative Research class, it can be useful for the resulation of any optimization problem too.

The program solve actually general problems of type:

```

/
| min    cX
/
\   AX=b
|
\   X>=0 (Integer or not)

```

where c is a vector of coefficients, X is the vector which represent the problem variables, A is a matrix $m \times n$ of coefficients, X is the same vector of before and b is a vector of known terms. The program then solve a problem in which we have to find the minimum of a certain expression at varying of variables(X), and contemporarily, the value of the solution must appease at the bond system $AX=b$.

(Note that the variables not present in the optimal solution are at zero value).

1.3 How use it

We have to insert the objective function(in minimum shape) coefficients and of the bond system.

The program is useful because it show all the passages due to the simplex method application in tableau shape.

These passages in fact, are required for a scripture esamination of Operative Research, and for example, to be sure of the exercise solution correctness we can use PULITO.

The showed tableau are on the shape:

```

-----
| | | | | <--objective function coefficients
----- (from the second column
| | | | | because the first row and
----- first column term is
/-> | | | | | <--\ the current obj. function
| ----- | value, changed of sign.)
on the first column /
there are the known terms /
(but not the first element) /
after the first row there are
the bond coefficients

```

For using of the dual algorithm we have to specify the basis variables correspondent at the bonds coefficients insertion order.

For the integer optimal solution is necessary use the Gomory algorithm, and in this case will be show the added bonds at the original tableau.

Pulito can solve a amximum of 100 x 100 tableau.

Pulito B&B is a version which use a Branch and Bound limited at 10 subproblems.

1.4 copyrights

PULITO is Freeware but all rights are reserved. You can copy as you wish, but: the archive must remain intact, and only a nominal fee can be charged for its distribution.

Aminet and similar low-price CD collections are allowed to spread PULITO until their price stays under 35.- DM. Now stop reading this and spread PULITO. ;>

This software is provided "AS IS" without warranty of any kind, either expressed or implied. By using it, you assume the entire risk as to the quality and performance of the program.

1.5 Acknowledgements

I wish to thank:

Chris Hülsbeck (or Huelsbeck), for his wonderful musical creations.

All Amiga programmers: thanks for supporting this wonderful machine.

Aminet, for the hundreds of megabytes of PD software.

Commodore, for the money they gave to original Amiga "parents" and for CBM16, CBM64 ↔ and CBM128. Too bad it's gone...

Escom AG, for giving the Amiga new life (let's hope so)

1.6 Greetings

Greetings go to:

De Marchi Marina, Marco Zuliani, my friends at University.

Sergio Serena, Assembly programmer. He owns an A4000/30.

Luca Giolo, Amos programmer, manga & anime fan. He owns an A1200/30/881.

Stefano Osti, Amos programmer. He owns an A500+.

Ilario Moretto, manga & anime fan, musician in the free time. He owns an A1200 ↔ and a CBM64! Soon you should find some of his modules on Aminet

And at all the people who know me.

1.7 Requirements

It require a minimum of AmigaDOS1.3 for the O.S, and for the memory and the rest :

PULITO |--> 200Kb RAM free, 68020/30/40 with 68881/82

PULITOB&B |--> 900Kb RAM free, 68020/30/40 with 68881/82

PULITO68000 |--> 250Kb RAM free, 68000(!?)

PULITOB&B68000 |--> 950Kb RAM free, 68000

1.8 Music

From the same author, on Aminet there are the follow musics:

mods/dream/DaitarnIII.lha

mods/dream/Glodrake.lha

mods/dream/Mazinga.lha
