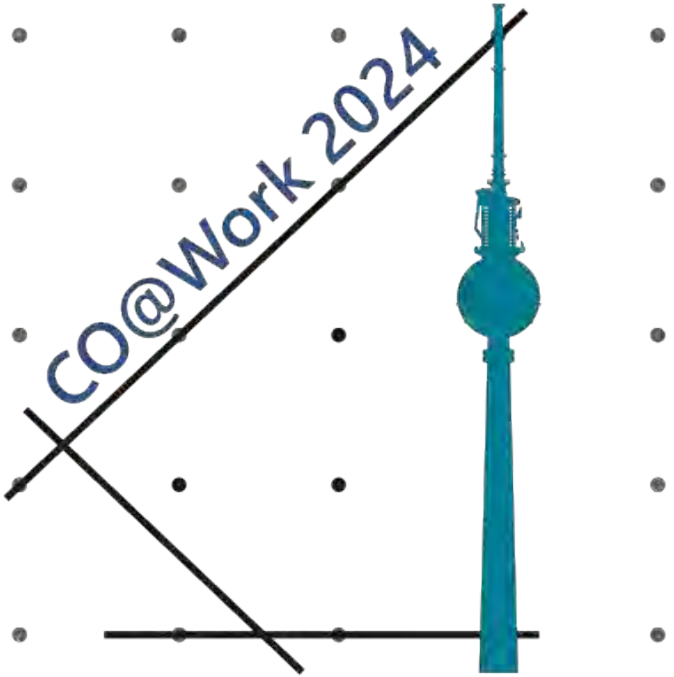
CO@Work2024: Data Experiment

Thorsten Koch



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The first system I used (1982)

CPU: Zilog Z80, at 1.76 MHz

Video: Monochrome

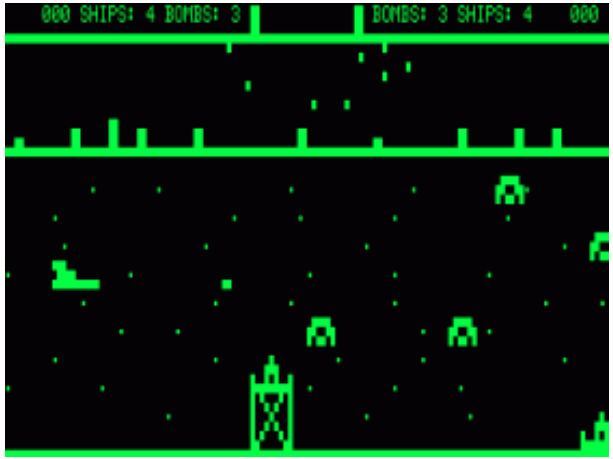
64×16 (uppercase) text, 128×48 block graphics

Composite video output, RF TV signal output

16 KB RAM, expandable to 48 KB

12 KB ROM containing Microsoft LEVEL II BASIC

Storage: Built-in 500 baud cassette deck



Documentation is important. Both for Programs and Data

```
v,i,j,k,l,s,a[99];
main()
{
for(scanf("%d",&s);*a-s;v=a[j*=v]-a[i],k=i<s,
j+=(v=j<s&&(!k&&!!printf(2+"\n\n%c"-(!l<<!j),
" #Q"[l^v?(l^j)&1:2])&&++l||a[i]<s&&v&&v-i+j&&
v+i-j))&&!(l%=s),
v||(i==j?a[i+=k]=0:++a[i])>=s*k&&++a[--i]);
}
```

What might it possibly do?

Is solves the n-queens problem for size 4 to 99. (Winner IOCCC 1990 Best small program)

Sooner or later, everyone does big data

- Optimization is a major topic of CO@Work.
- There is no optimization without data.
  To be able to optimize your experience we need some information from you.
- For example, to optimize the composition of the learning groups.
- Therefore, we ask you to provide some data as defined on the following pages.
- The process should be automatic.
  Therefore, it is very important, you follow the instructions carefully.
- Mandatory to submit by Wednesday, Sep 18, 8 pm for all participants
  (the data is required for the computational challenge)

We ask everybody of you to provide the following information:

1. A JSON file with some information about you.
2. A picture of yourself (or an avatar if you don't want your picture online).
3. A picture of the place where you stay.

We will assemble the pictures to a virtual group photo and a slide show and use the provided information to optimize the composition of the learning groups.

Data Formats

The file with the information about you should be
in JSON Format (ISO/IEC 21778:2017).
https://en.wikipedia.org/wiki/JSON

The file with your picture should be
in JPEG format (ISO 10918-1) and have a size of 512 × 512 pixels.
https://en.wikipedia.org/wiki/JPEG

The file with your place should be
in JPEG format (ISO 10918-1) and have a size of 1920 × 1080 pixels.

The JSON file should contain the following fields

Field Name	Type	Description
Name	String	Your full name in your native language
Email	String	email address you used for registration at CO@Work
Country	String	country of origin as an ISO 3166-1 Alpha-2
Languages	Array of Strings	List of all languages you speak as ISO 639-1 codes. Use capital case if you are fluent in the language and lower case if you only have limited knowledge.
Motto	String	motto/aphorism characterizing you to write under your picture
Clearance	String	I herewith grant the organizers the right to use and share the attached pictures for purposes related to CO@Work
Skill	Integer [0-100]	How would you rate your Skill in Computational Optimization
Level	Integer [1-5]	What is your current level of education: 1 = Undergraduate, 2 = Master's student, 3 = PhD student, 4 = Postdoc or professional, 5 = Prof.
Tools	Array of Strings	Which optimization software tools have you used: None, Xpress, Gurobi, SCIP, Copt, CPlex, HiGHS, GAMS, AMPL, …
CourseProject	Boolean	Have you worked on a real-world optimization problem (e.g., energy, logistics, finance) in a course project?
ResearchProject	Boolean	Have you worked on a real-world optimization problem (e.g., energy, logistics, finance) in an academic project?
IndustryProject	Boolean	Have you worked on a real-world optimization problem (e.g., energy, logistics, finance) in an industry project?
Experience	Integer [0-3]	0 = I have not implemented any, 1 = I used prebuilt implementations, 2 = I implemented optimization algorithms from scratch, 3 = I have developed advanced/custom optimization algorithms

JSON File Example

{ "Name": "Thorsten Koch“, "Email": "koch@zib.de", "Country": "DE",
"Languages": ["DE", "EN", "la"],
"Motto": “The code was hard to write, it should be hard to read",
"Clearance": "I herewith grant the organizers the right to use and share the attached pictures for purposes related to CO@Work“,
"Skill": 92, "Level": 5,
"Tools": [“Cplex", “Xpress", "Gurobi", “Copt", “SCIP"],
"CourseProject": false, "ResearchProject": true,
"IndustryProject": true, "Experience": 3
}

Please submit the files as follows:

- *LastnameFirstname* should be the English transcription of your name
- The name of the JSON file should be *LastnameFirstname*.**json**
- The name of the file with your picture should be *LastnameFirstname*.**jpg**
- The name of the file with the picture of your place should be *LastnameFirstname*-**place**.**jpg**
- All 3 files should be **attached** to an email
- Send the email to coaw-data@zib.de
- The subject of the email should be CO@Work: Data for *LastnameFirstname*
- *Please, as soon as possible (e.g. today!)*

Fragen

有問題嗎

คำถาม

?

質問

Вопросы

Questions

Câu hỏi

Thank you very much!