Where have the women of tech history gone? 2.0

Laura Durieux - FOSDEM 2025 - 01/02/2025

FOSDEM

Laura Durieux

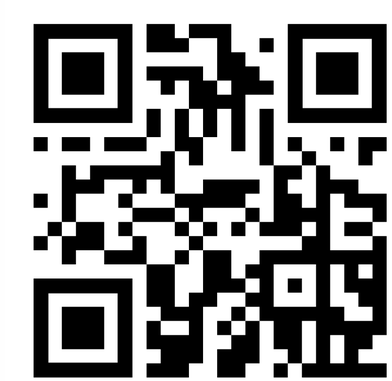
A.K.A

DevGirl_

Fullstack web developer

WorldSkills Belgium gold medal 2020 & 2021

Streamer on Twitch



DevGirl_

devgirl__

devgirl___

contact@lauradurieux.dev

Do you know ?

- Who invented the compiler?
- Whe created the assembly languages?
- Who developed the ARM architecture?
- Who made the protocol that allowed the WWW to exists?

Do you know ?

- Who invented the compiler?
- Whe created the assembly languages?
- Who developed the ARM architecture?
- Who made the protocol that allowed the WWW to exists?

They are women

How can we help?

how can we encourage more women to become interested in computer science and feel like they belong in it?

How can we help?

Les Grandes oubliées -

Pourquoi l'Histoire a effacé les femmes

Titiou Lecoq

How can we help?

“What the early prehistorians imagined was nothing more than a copy of the social organization they knew.”

How can we help?

What young girls today lack are

Role models

Ask a child to draw

A scientist

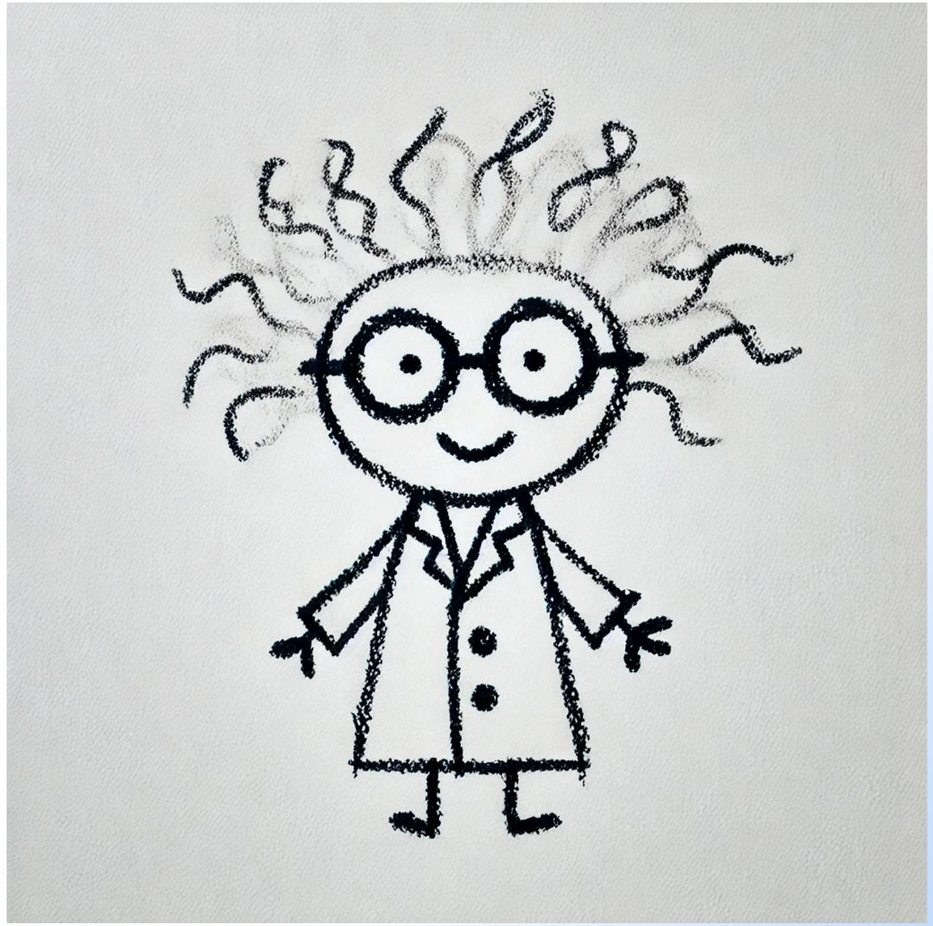


Image generated by DALL-E

Ask a child to draw

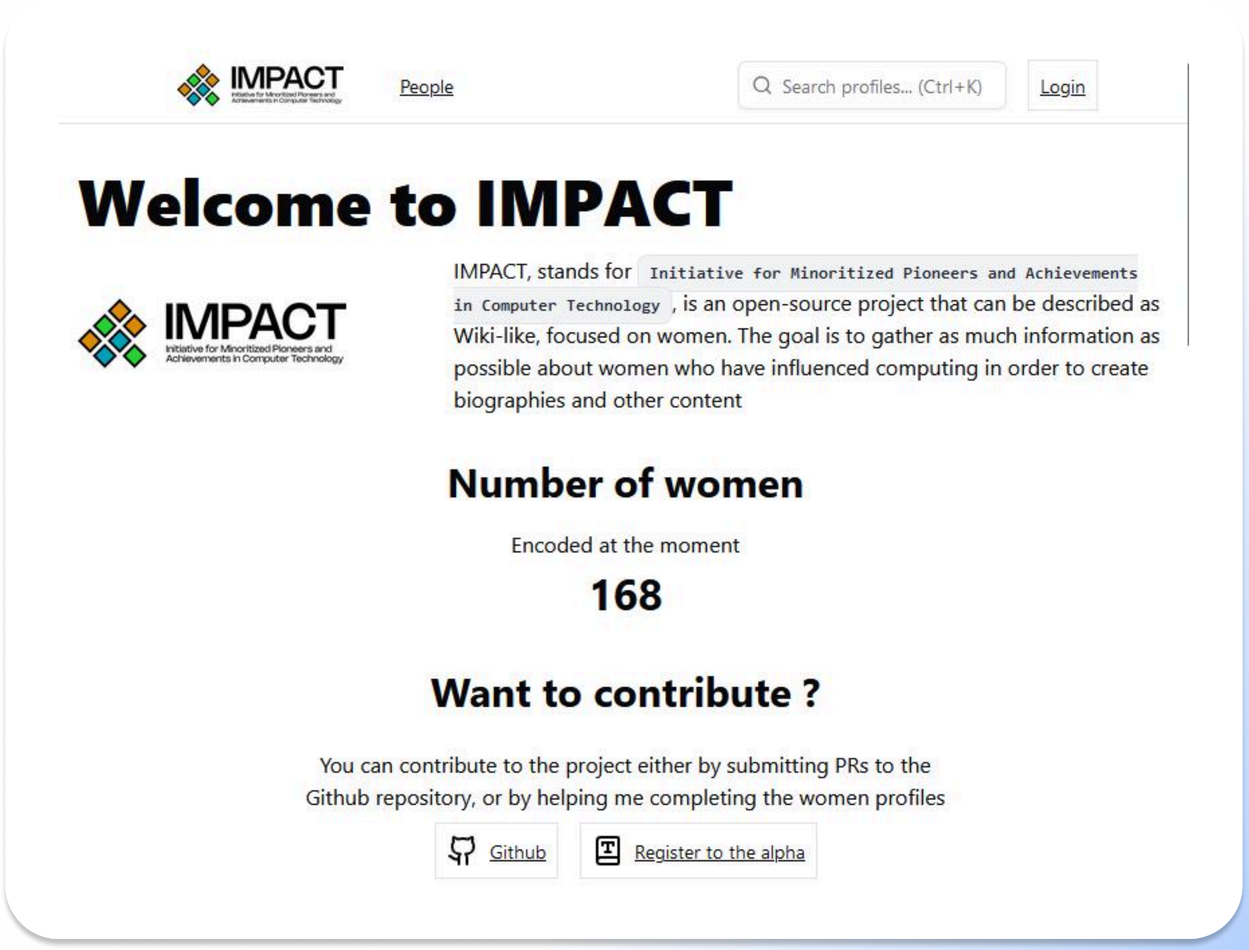
A computer scientist

Image generated by DALL-E

How can we help?

Programming and computer science should feel like natural and accessible options.

IMPACT Project



IMPACT Project

Deployment GitHub Action Failing Due to Cached Files #13

Open

Lauwed opened 1 minute ago

Description

The GitHub Action for production deployment is failing due to a build error related to a missing module (`lucide-react`). However, this file was removed in a recent merge, so it seems that some outdated files are still being referenced.

Error Logs

```
#25 [pwa builder 5/5] RUN    PNPM install --frozen-lockfile --offline --prod &&     pnpm run build
#25 85.46 Failed to compile.
#25 85.46
#25 85.46 ./components/Tag.tsx:2:19
#25 85.46 Type error: Cannot find module 'lucide-react' or its corresponding type declarations.
#25 85.46
#25 85.46   1 | // components/Tag.tsx
#25 85.46 > 2 | import { X } from "lucide-react";
#25 85.46     |                   ^
#25 85.46   3 | import React from "react";
#25 85.46   4 |
#25 85.46   5 | interface TagProps {
#25 85.59  ELIFECYCLE  Command failed with exit code 1.
```

Context

- The file `components/Tag.tsx` was removed in this commit.
- However, the build process still references this deleted file.
- It seems like a caching issue, possibly in Docker or the Next.js build cache.

And you, do you know any women in computer science?

Women in tech history

Women in tech history

Assembly Languages

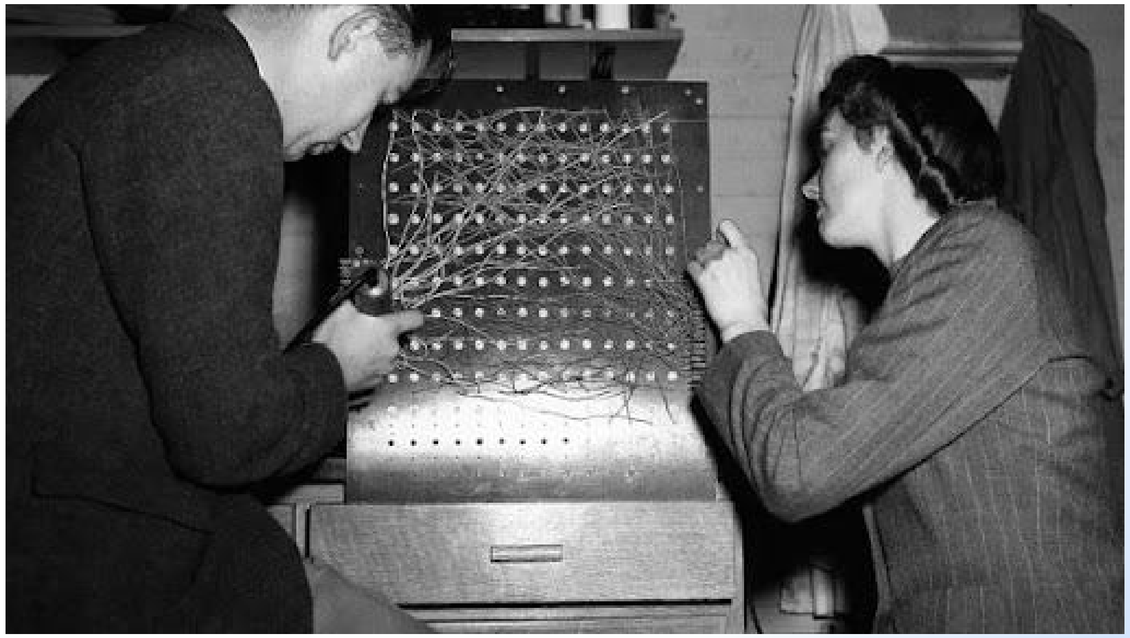
Assembly language

Article Talk

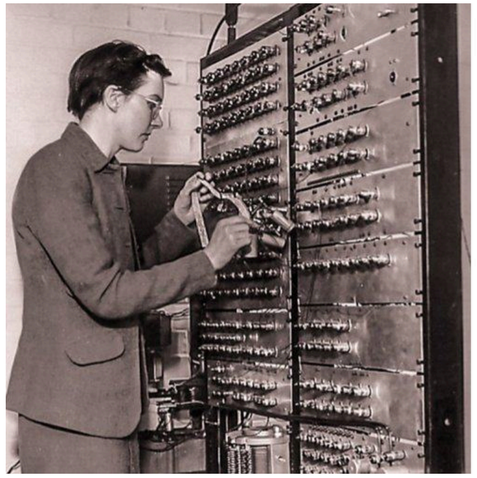
From Wikipedia, the free encyclopedia

In computer programming, **assembly language** (alternatively **assembler language**[1] or **symbolic machine code**),[2][3][4] often referred to simply as **assembly** and commonly abbreviated as **ASM** or **asm**, is any low-level programming language with a very strong correspondence between the instructions in the language and the architecture's machine code instructions.[5] Assembly language usually has one statement per machine instruction (1:1), but constants, comments, assembler directives,[6] symbolic labels of, e.g., memory locations, registers, and macros[7][1] are generally also supported.

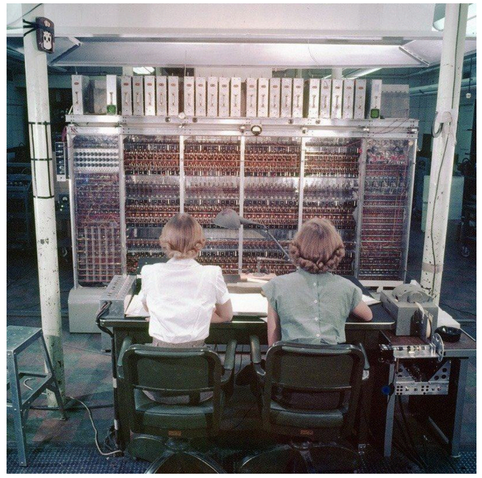
```
; ------------------------------------------------------------------------------
; Writes "Hello, World" to the console using only system calls. Runs on 64-bit Linux only.
; To assemble and run:
;
;     nasm -felf64 hello.asm && ld hello.o && ./a.out
; ------------------------------------------------------------------------------

          global    _start

          section   .text
_start:   mov       rax, 1                  ; system call for write
          mov       rdi, 1                  ; file handle 1 is stdout
          mov       rsi, message            ; address of string to output
          mov       rdx, 13                 ; number of bytes
          syscall                           ; invoke operating system to do the write
          mov       rax, 60                 ; system call for exit
          xor       rdi, rdi                ; exit code 0
          syscall                           ; invoke operating system to exit

          section   .data
message:  db        "Hello, World", 10      ; note the newline at the end
```



Kathleen and Andrew Booth



ARC
Automatic Relay Computer



SEC
Simple Electronic Computer

APEXC
All Purpose Electronic X-Ray Computer

He built the computers, She wrote the programs

GENERAL CONSIDERATIONS IN THE DESIGN OF AN ALL PURPOSE ELECTRONIC DIGITAL COMPUTER.

by

ANDREW D. BOOTH

and

KATHLEEN H.V. BRITTEN.

2nd. Edition
August 1947.

7)	$\|M\| \rightarrow A$.	
8)	$-\|M\| \rightarrow A$.	
9)	$M \rightarrow cR$.	
10)	$R \rightarrow cA$.	
11)	$M \times R \rightarrow cA$.	Clear accumulator, multiply M by R and place L.H. 39 digits of answer in A and R.H. 39 digits in R.
12)	$A \div M \rightarrow cR$.	Clear register, divide A by M, leave quotient in R and remainder in A.
13)	$C \rightarrow M_1$.	
14)	$C \rightarrow M_r$.	
15)	$Cc \rightarrow M_1$.	If number in A ≥ 0 shift control to M_1.
16)	$Cc \rightarrow M_r$.	
17)	$A \rightarrow M$.	
18)	$A_1 \rightarrow M_1$.	
19)	$A_r \rightarrow M_r$.	
20)	S_r	Shift contents of A one place to right but leave L.H. digits unaltered.
21)	S_1	If contents of A are A(0),A(1),---A(39) and of R are R(0),R(1),---R(39), replace these by A(0),A(2),---A(39),0 and R(1)---R(39), A(1).
22)	I	Initiate operation of machine.
23)	$T_i \rightarrow M$	Transfer contents of input tape to M.
24)	$M \rightarrow T_o$	Transfer contents of M to output tape.
25)	E	Signal completion of operation.

Kathleen Booth

1922 - 2022

COMPUTER SCIENTIST

- Invented the first Assembly Language
- Research on neural networks led to programs that mimicked how animals recognize shapes and patterns.

Women in tech history

Computer

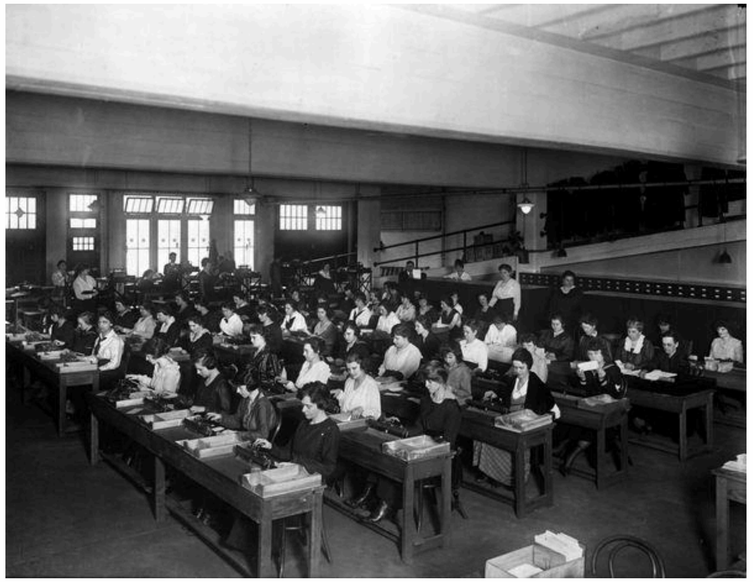
was a job

Human Computers

Appeared in the 17th century

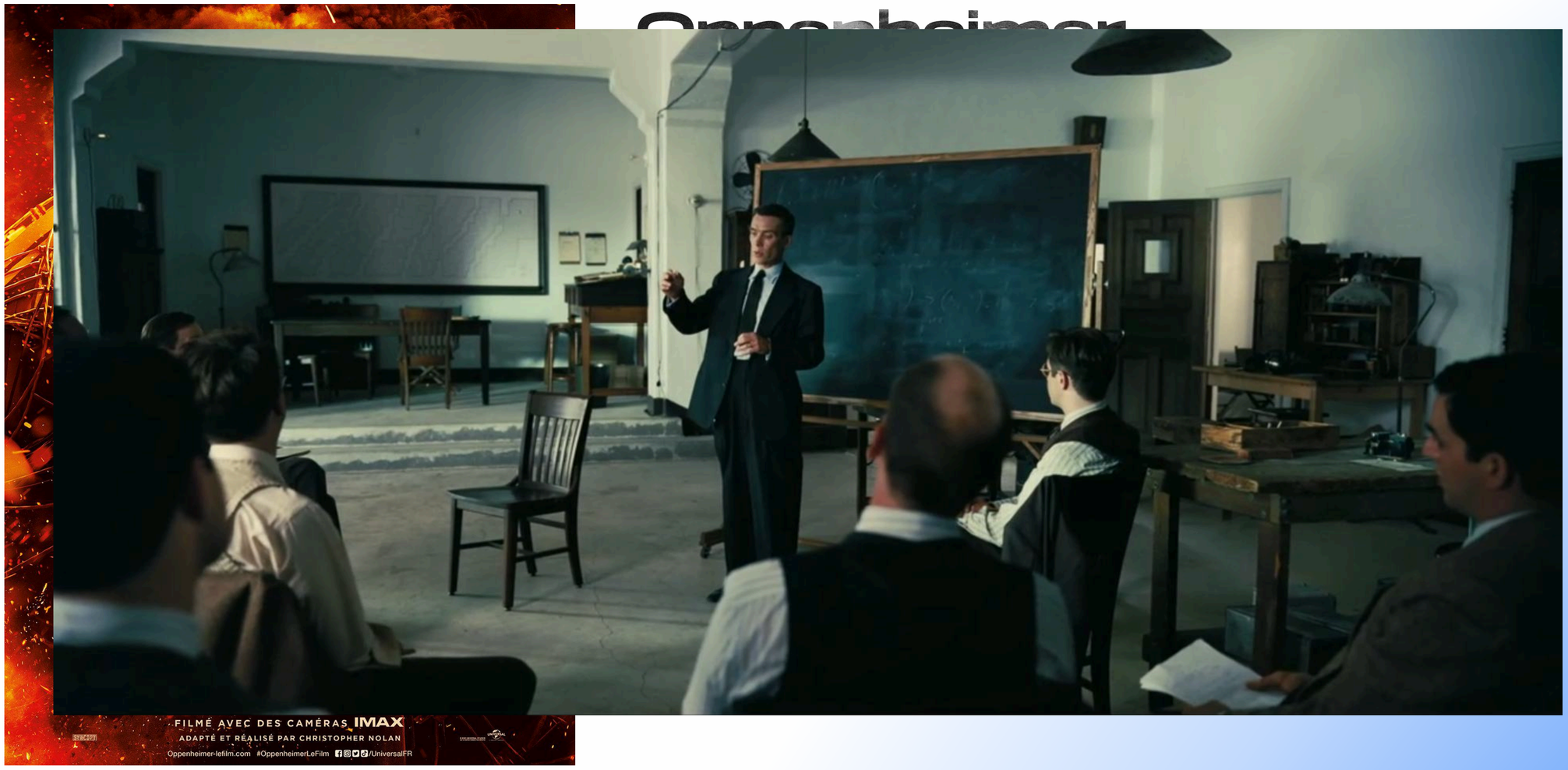
Literally means “one who computes”

Human Computers



Oppenheimer

2023 - Christopher Nolan


FILMÉ AVEC DES CAMÉRAS IMAX
ADAPTÉ ET RÉALISÉ PAR CHRISTOPHER NOLAN
Oppenheimer-lefilm.com #OppenheimerLeFilm /UniversalFR


FILMÉ
ADAPTÉ
Oppenheimer-


3246
SY8

Women?

Wife, sex and secretary

Oppenheimer

2023 - Christopher Nolan

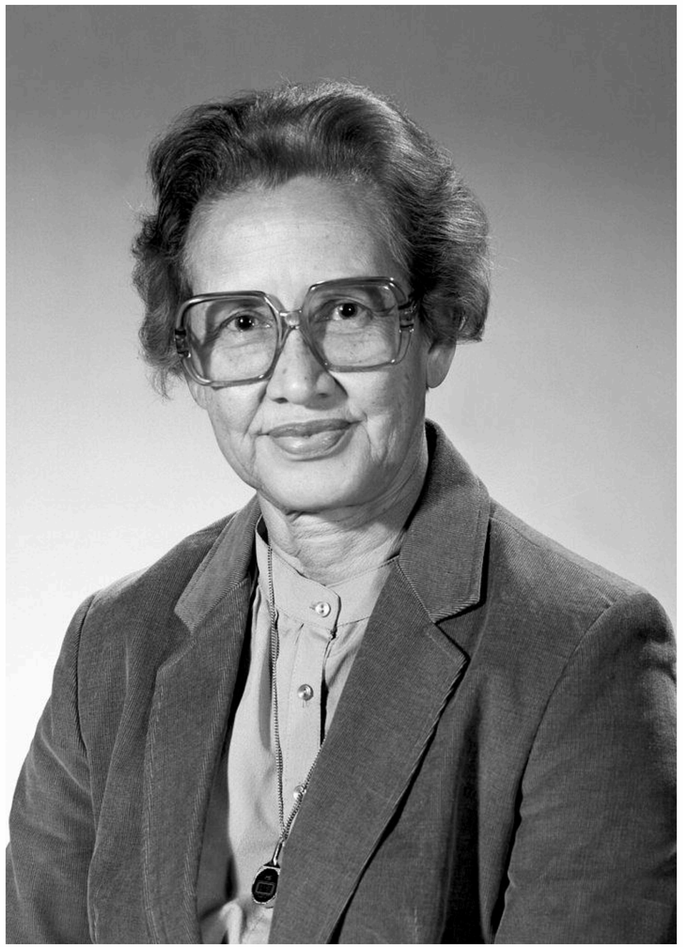
Why is it not interesting to show the women computers?

Why do we find those parts irrelevant or boring?

(The old 

)

Katherine Johnson 1918 - 2020



MATHEMATICIAN

- Calculated the trajectory of Mercury-Atlas 6 (Friendship 7) in 1962
- The pilot, John Glenn, only trusted her

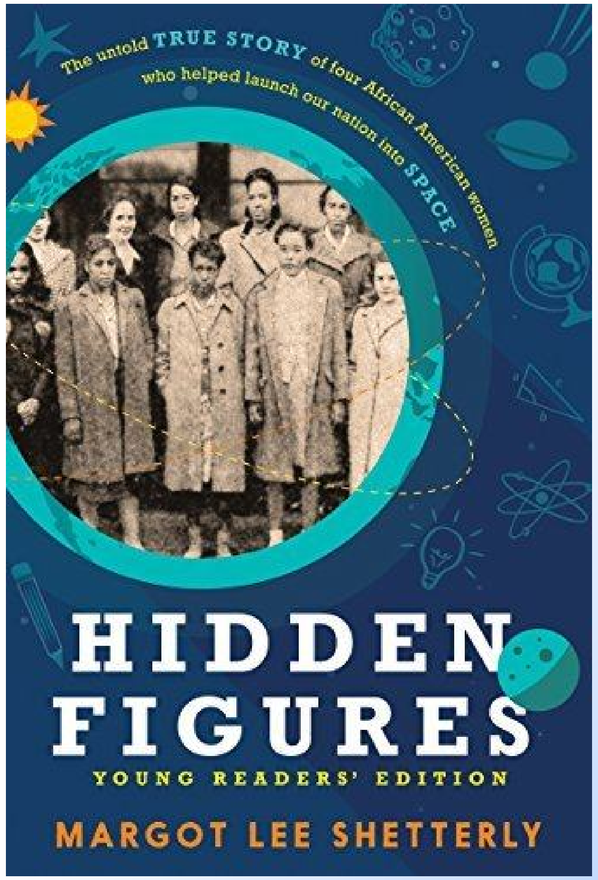
Mary Jackson

1921 - 2005

MATHEMATICIAN AND AEROSPACE ENGINEER

- Worked at Langley Research Center with Katherine Johnson and Dorothy Vanghan
- NASA’s first Black female engineer

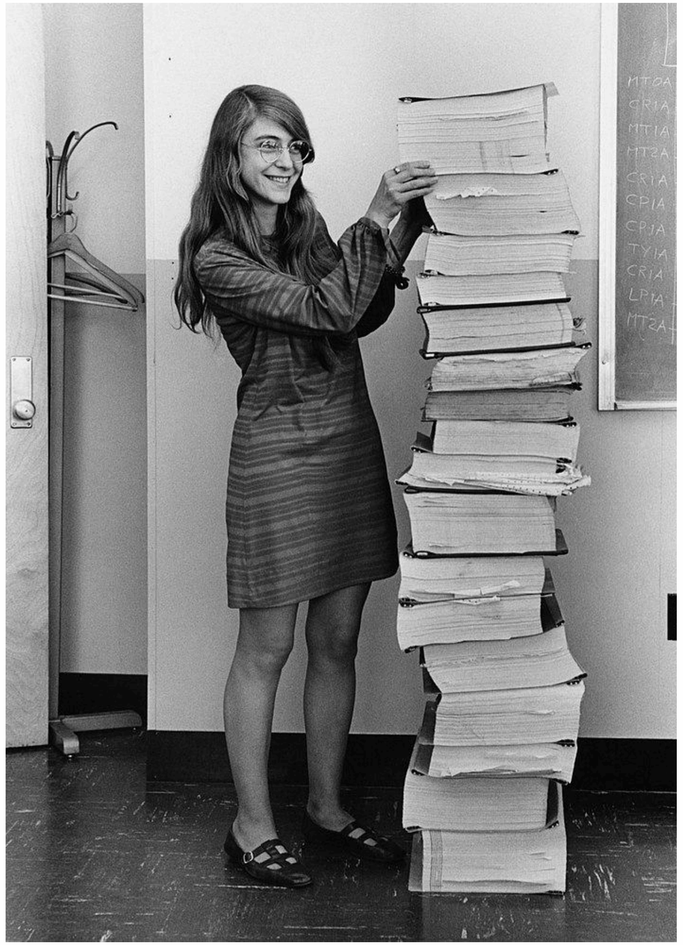
2016 - Theodore Melfi



2016 - Margot Lee Shetterly

Hidden Figures

Margaret Hamilton 1936

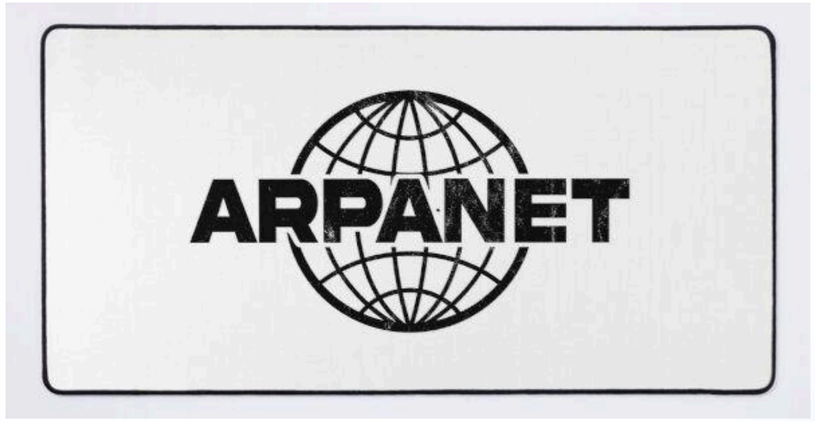


COMPUTER SCIENTIST

- Wrote the navigation software for the Apollo program

Women in tech history

The birth of Internet



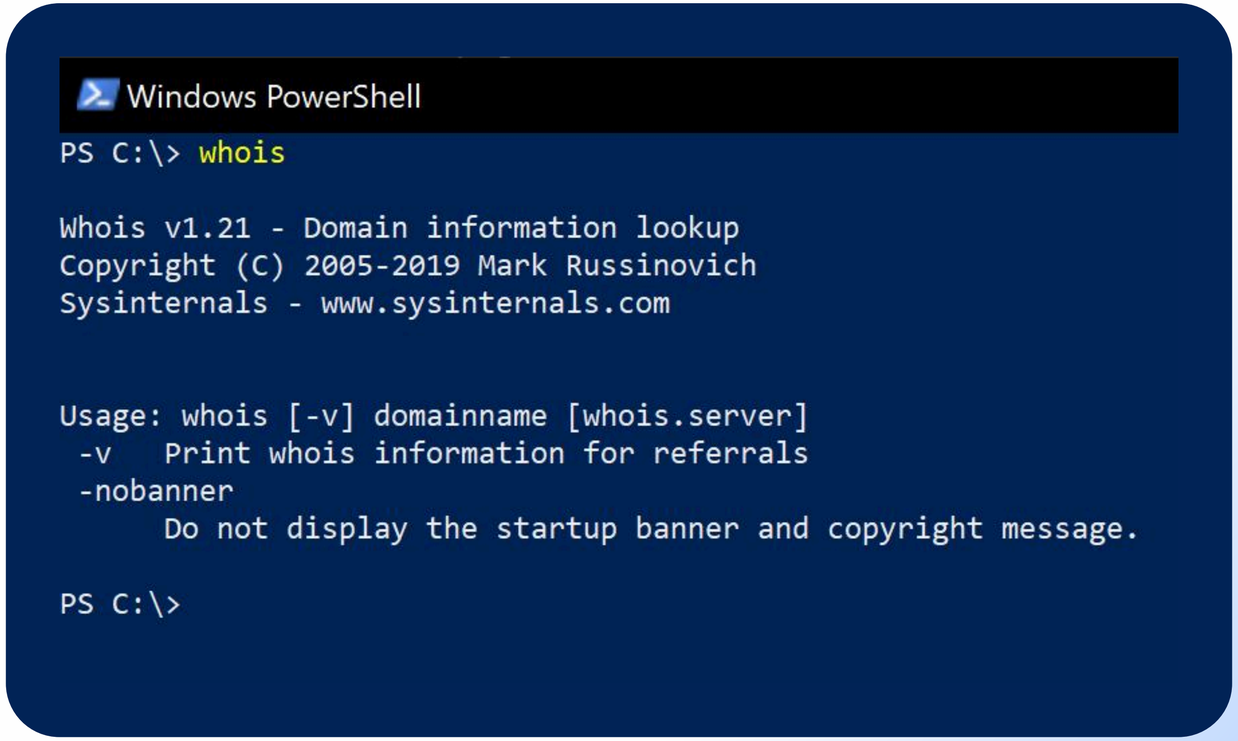
ARPANET

Advanced Research Projects Agency Network

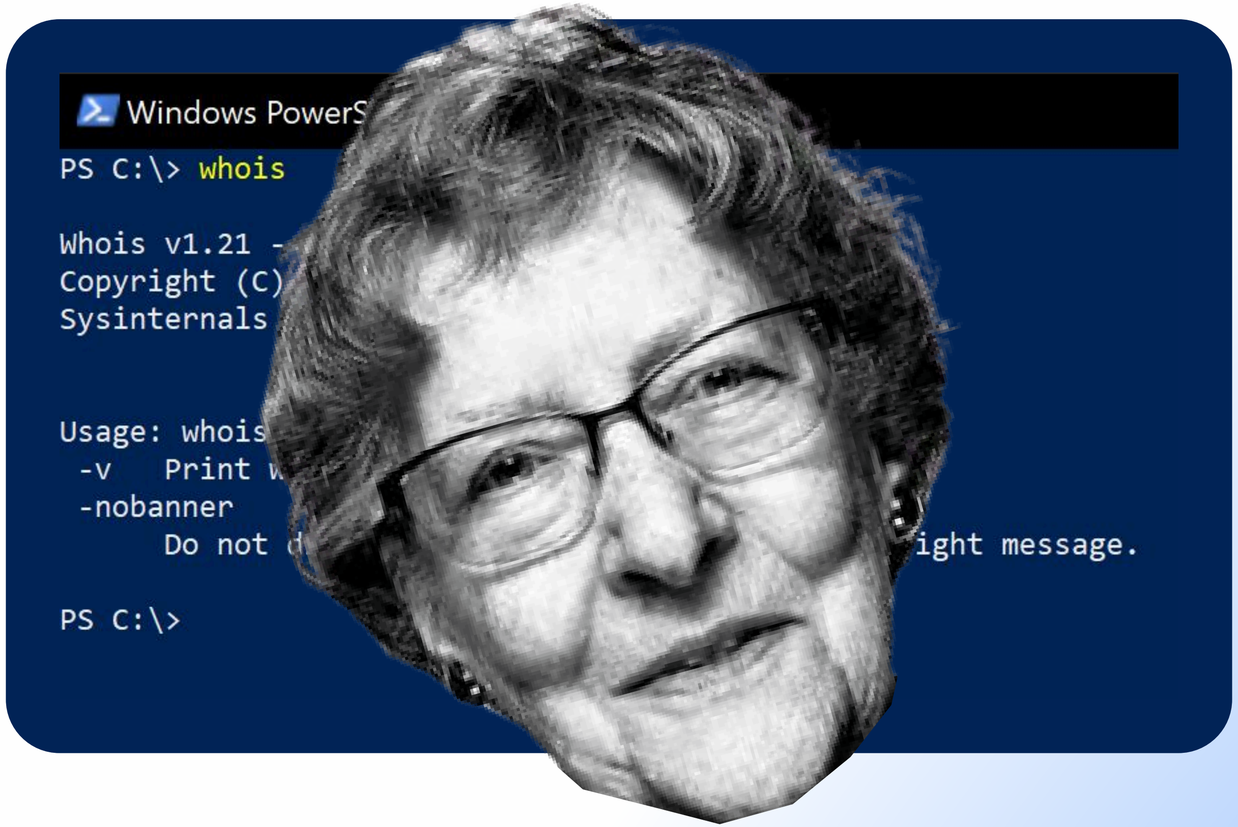
1962
Started

1969
Became reality

1972
1rst demo


Windows PowerShell
PS C:\> whois
Whois v1.21 - Domain information lookup
Copyright (C) 2005-2019 Mark Russinovich
Sysinternals - www.sysinternals.com
Usage: whois [-v] domainname [whois.server]
-v Print whois information for referrals
-nobanner
Do not display the startup banner and copyright message.
PS C:\>

The birth of Internet

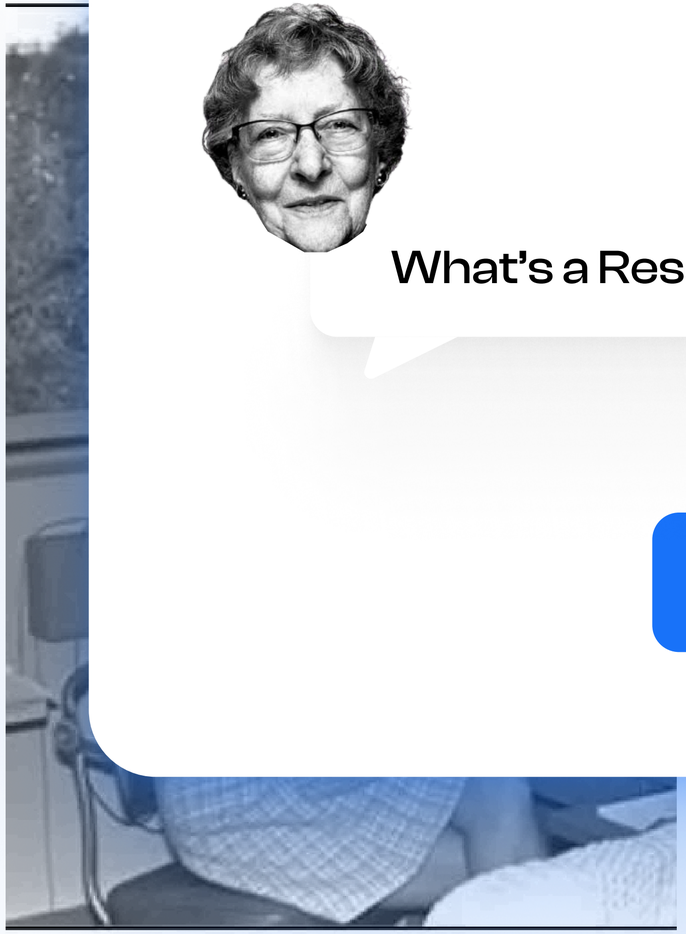


Elizabeth Feinler 1931

COMPUTER SCIENTIST

- Created the Resource Handbook

Elizabeth Feinler 1931



What's a Resource Handbook?

I don't know, but we need one in six weeks

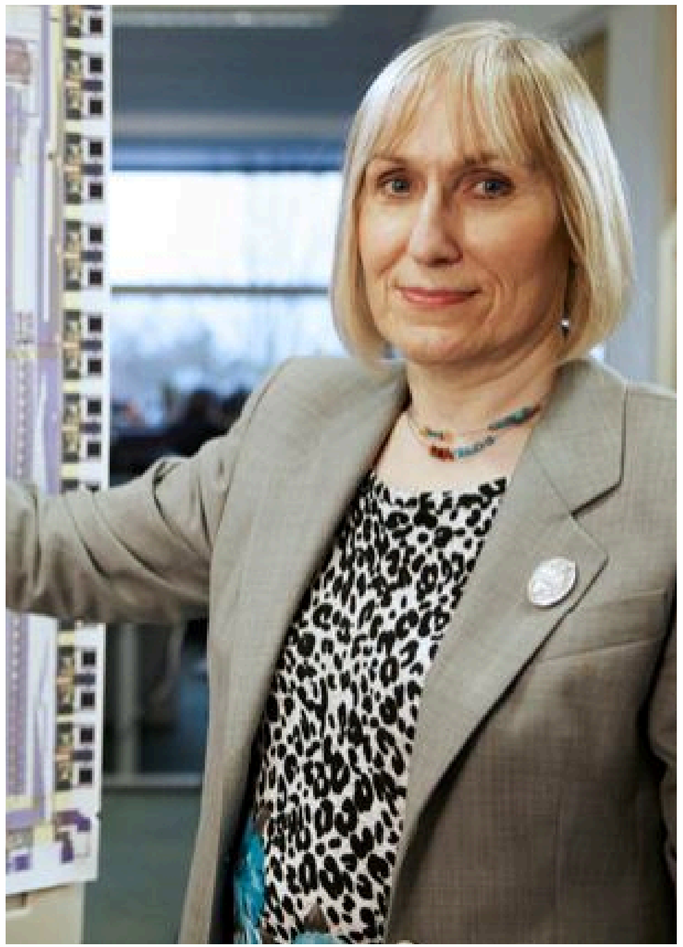
Elizabeth Feinler 1931

COMPUTER SCIENTIST

- Created the Resource Handbook
- The Resource Handbook was the browser of ARPANET
- Invented the terminal command WHOIS
- Participate to the birth of domain names

Sophie Wilson

1957



COMPUTER SCIENTIST

Inventor of ARM

A Tim Berners-Lee

B Tim Berneers-Lee

A Tim Berners-Lee

B Tim Berneers-Lee

A Betty Holberton

B Radia Perlman

A Betty Holberton

B Radia Perlman

Radia Perlman

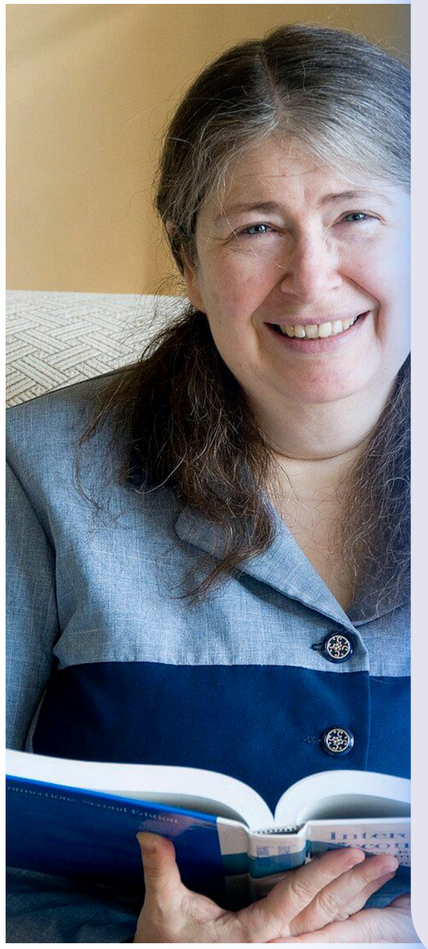
1985

COMPUTER PROGRAMMER & NETWORK ENGINEER

Inventor of the STP

That allowed the WWW to exists

Radia Pe



ORK ENGINEER

Algorhyme

I think that I shall never see
A graph more lovely than a tree.

A tree whose crucial property
Is loop-free connectivity.

A tree which must be sure to span
So packets can reach every LAN.

First the Root must be selected
By ID it is elected.

Least cost paths from Root are traced
In the tree these paths are placed.

A mesh is made by folks like me.
Then bridges find a spanning tree.

Radia

he STP

Radia Perlman

1985

COMPUTER PROGRAMMER & NETWORK ENGINEER

Inventor of the STP

That allowed the WWW to exists

- A lot of modern protocols are extensions of the STP

RSTP
Rapid Spanning Tree Protocol

MSTP
Multiple Spanning Tree Protocol

Women in tech history

Girls and Mathematics 2000

Infant Behavior and Development
Volume 23, Issue 1, January 2000, Pages 113-118

Article

Sex differences in human neonatal social perception

Jennifer Connellan [a], Simon Baron-Cohen [a], Sally Wheelwright [a], Anna Batki [a], Jag Ahluwalia [b]

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Abstract

Sexual dimorphism in sociability has been documented in humans. The present study aimed to ascertain whether the sexual dimorphism is a result of biological or socio-cultural differences between the two sexes. 102 human neonates, who by definition have not yet been influenced by social and cultural factors, were tested to see if there was a difference in looking time at a face (social object) and a mobile (physical-mechanical object). Results showed that the male infants showed a stronger interest in the physical-mechanical mobile while the female infants showed a stronger interest in the face. The results of this research clearly demonstrate that sex differences are in part biological in origin.

Infant Behavior and Development
Volume 23, Issue 1, January 2000, Pages 113-118

Article

Sex differences in human neonatal social perception

They reported the following results:
of the 58 girls, nearly half (27) showed ‘no preference’, 22 a ‘face preference’ and 10 a ‘mobile preference’
of the 44 boys, nearly one third (14) showed no preference, 11 had a ‘face preference’, while 19 had a ‘mobile’ preference

cultural differences between the two sexes. 102 human neonates, who by definition have not yet been influenced by social and cultural factors, were tested to see if there was a difference in looking time at a face (social object) and a mobile (physical-mechanical object). Results showed that the male infants showed a stronger interest in the physical-mechanical mobile while the female infants showed a stronger interest in the face. The results of this research clearly demonstrate that sex differences are in part biological in origin.

ELSEVIER

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Article

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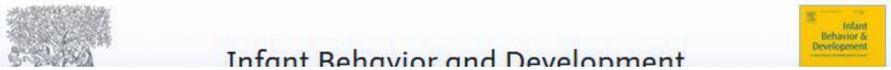

- Widely shared in the media, even though it was heavily criticized by the scientist community
- Too much noise in the data
- Newborn babies can’t hold their heads steady to look at things
- No other research teams have observed the same behavior

results of this research clearly demonstrate that sex differences are in part biological in origin.

I'm not good in math

≠

I'm not interested in math

03

Conclusion

Conclusion

Representation allows a person to **identify with something** and **see new possibilities.**

Conclusion

Representation

allows a person to **identify with something** and **see new possibilities.**

Role model

allows a person to **admire someone** and **push their limits.**

✨ Thank you ✨

DevGirl_

FOSDEM