Memory and Introduction to Codecast

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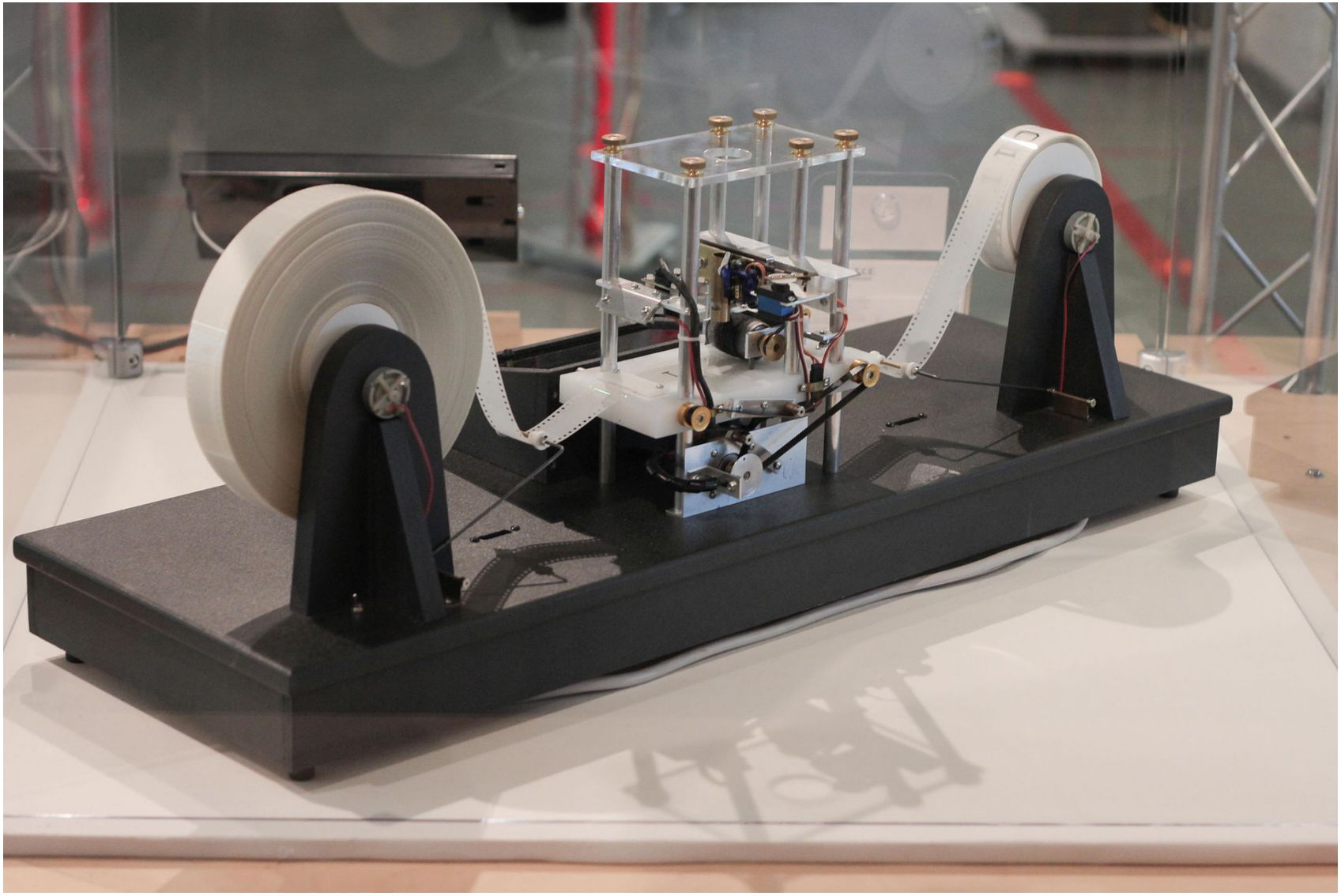
Turing Machine as a Fundamental Computer Architecture

- Invented by Alan Turing in 1936
- Has a tape and read/write head



- "It is possible to invent a single machine which can be used to compute any computable sequence. If this machine U is supplied with the tape on the beginning of which is written the string of quintuples separated by semicolons of some computing machine M, then U will compute the same sequence as M." - Alan Turing
- "Turing's paper . . . contains, in essence, the invention of the modern computer and some of the programming techniques that accompanied it." - Minsky

Codecast

- Memory visualizing tool for C learners
- Link: https://codecast.france-ioi.org/v7/task?platform=unix&theme=coursera&noDoc

Notes

- //! showMemory(start=65520) for stack
- //! showMemory(start=272) for heap
- Int variables are initialized to 0 automatically. This is tool specific and variables may not be initialized automatically in other environments. So, it's a good practice to always intialize them with 0 manually

Exercise

- Write a C program to concatenate two strings using pointers

Thanks for your attention!

Useful Links:

- Turing Machine explained: https://youtu.be/-ZS_zFg4w5k
- Github link of Codecast: https://github.com/France-ioi/codecast