

# CS 161 Day 2

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## 1 What's a computer?

### 1.1 Calculator?

It performs computations... It is a kind of an example of a computer however the calculator is not general purpose programmable device.

### 1.2 Smart phone?

## 2 Important characteristics

### 2.1 Take inputs

### 2.2 Perform operations

### 2.3 Generate Outputs

## 3 History of computers

### 3.1 Abbacus

Mechanical aid to computation

### 3.2 Pascal, Leibnitz, and others had similar devices

### 3.3 Charles Babbage

#### 3.3.1

Idea of a programmable, general purpose computer. Had designs however he never completed one. He had a history of getting distracted by better ideas.

### **3.3.2**

First idea was the "difference engine". Sponsored by gov't. Purpose was to generate sheets of logarithmic tables for computations. These were generated by people by hand.

### **3.3.3**

"Analytical engine" – the device that would have been programmable. Not limited to arithmetic.

## **3.4 Ada Lovelace - actually programmed some of these devices.**

## **3.5 Alan Turing**

An actual programmable computer did not come around until WWII. There was an effort to decode German "Enigma" code. This was not an actual computer. The general purpose computer called the "Collosus" device.

## **3.6 Germany**

Not as fast as fully electronic computer. . . Used electrical relays

## **3.7 US (ADC Computer)**

First fully electronic computer (perhaps) but not first general purpose computer.

First actual computer (Eniac???) was used for calculating ballistics and trajectories