# Computer Architecture -- Study Notes

* The Entscheidungs problem asks for an algorithm that will take as input a description of a formal language and a mathematical statement in the language and produce as output either "True" or "False" according to whether the statement is true or false.
* Turing machines are basic abstract symbol-manipulating devices which, despite their simplicity, can be adapted to simulate the logic of any computer algorithm.
* Generations of computers:
  + First Generations -- Vacuum Tubes (1945 - 1955)
    - It was used to decipher encrypted code using the german ENIGMA Machine
    - ENIAC (Electronic Numeric Integrator and Computer )
  + The Second Generation -- Transistors (1955-1965)
    - The transistor was invented at the Bell Labs by:
      * John Bardeen
      * Walter Brattain
      * William Shockley
    - Within 10 years the transistor revolutionised computers and by the late 1950s, vacuum computers were obsolete