

# History of Logic

- Logic has a long history starting from Aristotle (384-322BC)
- 624-545 BC: Thales introduced math. as deductive sc.
- 6th Century BC: Sophists in Greece held competitions involving skills of arguments; many times contradictions will arise
- 4th Century BC: Aristotle single-handedly invented logic.

Example: ① Zeno's Paradox: In a race tortoise is given headstart, then rabbit will never catch tortoise since it must get to where tortoise was.

② Barber shaves all men who don't shave themselves.  
Who shaves the barber?  
[Barber shaves himself. But barber shaves only those who don't shave themselves.  
[Barber doesn't shave himself]. Then barber must shave barber, i.e. himself.  
Contradiction in both cases.  
This is because axiom itself is erroneous (self-referential).

③ Student learns law from master, pays half the fees initially and the remaining fee is to be paid after student wins 1st case. Student delays his practice of law and Master takes student to court.  
Master: If I win the case, then (by court's ruling) student should pay.  
If I lose the case, then (by initial agreement) student should pay.  
Student: If I win, then (by court's ruling) I should not pay.  
If I lose, then (by initial agreement) I should not pay.

- Clearly contradiction can arise when "axioms" are inconsistent.
- Aristotle developed sc. of Logic to avoid such pitfalls.