Assembly of the IAS

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Calculate z= (a-b)*c

- To calculate z = (a –b) * c
- First of all you need to assign memory locations to the variables:
- Assume a is in memory location 300

a	M(300)
b	M(301)
c	M(302)
z	M(303)

Now the instructions

- Suppose you start your program from Memory location 100
- The first step is to load the AC with the variable a
  - LOAD M(300)
- Next you subtract
  - SUB M(301)
- At this point we have a – b stored in the AC

The multiplication

- In order to multiply you need to load MQ with a value then Multiply it by a value in memory.
- We need to multiply what is stored in the AC with the value c
- But before we do I will store the value in the AC in another memory location? What value does it hold?
- STOR M(305)
- Now load MQ with c
  - LOAD MQ, M(302)
- Now multiply it with Memory location 305? Why?
  - MULT M(305)

Storing the multiplication result

- The result of multiplication is stored in AC,MQ
- So you need to store both in this way
  - STOR M(303)
  - LOAD MQ
  - STOR M(304)

  - QUESTIONS?

The final program

Memory location	Left instruction	Right instruction
100	LOAD M(300)	SUB M(301)
101	STOR M(305)	LOAD MQ, M(302)
102	MULT M(305)	STOR M(303)
103	LOAD MQ	STOR M(304)
104	HALT	