The VC1620 Computer

The VC1620 is a decimal computer with 100,000 words of memory. Each word consists of 12 decimal digits. The machine language instructions for the VC1620 is of the following form:

2 digits	5 digits	5 digits
operation code	Address1	address2

A machine language program is a sequence of machine language instructions stored in memory. The computer runs a machine language program by executing a sequence of instructions stored in successive memory locations. The first instruction of a program is assumed by the computer to be at location 100. The following are the machine language instructions for the VC1620. For this discussion assume that Addr1 is the first address in the instruction and Addr2 is the second.

NAME	OP. CODE	MEANING
ADD	01	Addr1 <-- c(Addr1) + c(Addr2) (The contents of the first address specified in the instruction and of the contents of the second address specified in the instruction are added together. The result is placed in the first address.):
SUBTRACT	02	Addr1 <-- c(Addr1) - c(Addr2)
MULTIPLY	03	Addr1 <-- c(Addr1) * c(Addr2)
DIVIDE	04	Addr1 <-- c(Addr1) / c(Addr2)
COPY	05	Addr1 <--c(Addr2)
READ	07	A line is read and record the number found there in Addr1. Addr2 is not used.
WRITE	08	c(Addr1) is displayed Addr2 is not used.
BRANCH	09	go to Addr1 for next instruction. Addr2 is not used.
BRANCH MINUS	10	go to Addr1 if c(Addr2) < 0
BRANCH ZERO	11	go to Addr1 if c(Addr2) = 0

BRANCH POSITIVE 12 go to Addr1 if c(Addr2) > 0

HALT 13 terminate execution. The Addr1 and Addr2 are ignored.

We will write the following examples programs in class:

1. Print the value of C(5)+C(300)
2. Print C(200)*C(6)+C(300)*C(7)
3. Read in a number and display its factorial. Factorial in VC1620 Macine Language.
4. Read in 100 nos. and print their average.

Note: there was actually a time when there were decimal computers. There might be a time in the future when they are back. **Why??? Why not???**

Note: there has to be a loader program to put a machine language program into memory.