



INTERNATIONAL ATOMIC ENERGY AGENCY
UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION



INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS
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CABLES: CENTRATOM - TELEX 460392-I

SMR/90 - 12

COLLEGE ON MICROPROCESSORS:
TECHNOLOGY AND APPLICATIONS IN PHYSICS

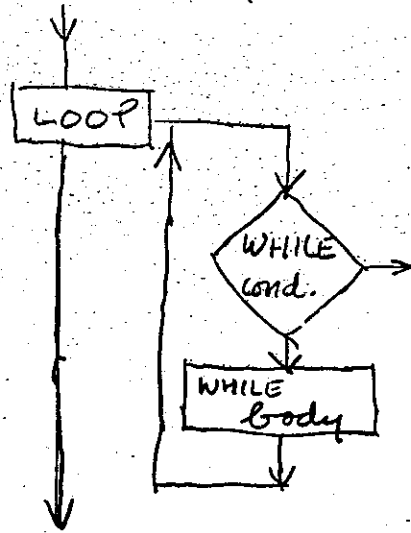
7 September - 2 October 1981

STRUCTURED PROGRAMMING IN 6800 ASSEMBLY LANGUAGE

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These are preliminary lecture notes, intended only for distribution to participants. Missing or extra copies are available from Room 230.

DO WHILE / REPEAT UNTIL



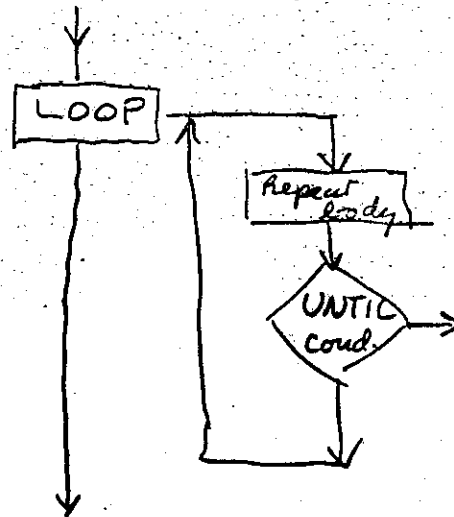
1
DO WHILE flag has been set...
LDAA FLAG
BLT ENDWHILE

LDAA #-1
STAA FLAG
ENDWHILE JMP DOWNH14

REPEAT3 flag has been set...

LDAA #-1
STAA FLAG

LDAA FLAG
BGE REPEAT3



32
DO WHILE (FLAG GT 0)

<while body>
set up exit cond.
<more code, if any>
END WHILE

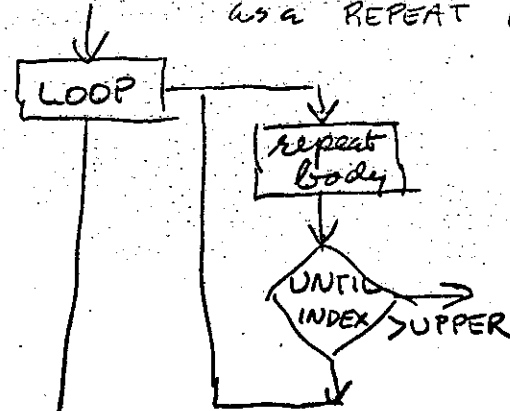
REPEAT

<repeat body>
set up exit cond.

<more body, if any>

UNTIL (FLAG LT 0)

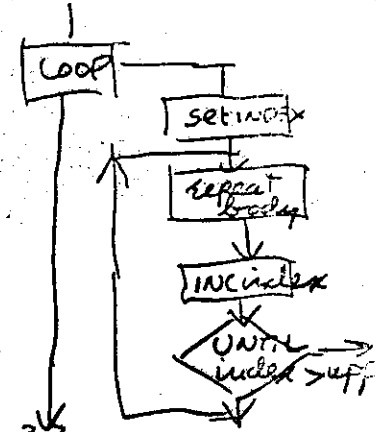
Iterative DO INDEX = LOWER TO UPPER (By V.) as a REPEAT UNTIL INDEX GT UPPER



1
ITERDO7

LDAA LOWER
STAA INDEX

LDAA INDEX
INCA
CMPA UPPER
BLE LOOP7



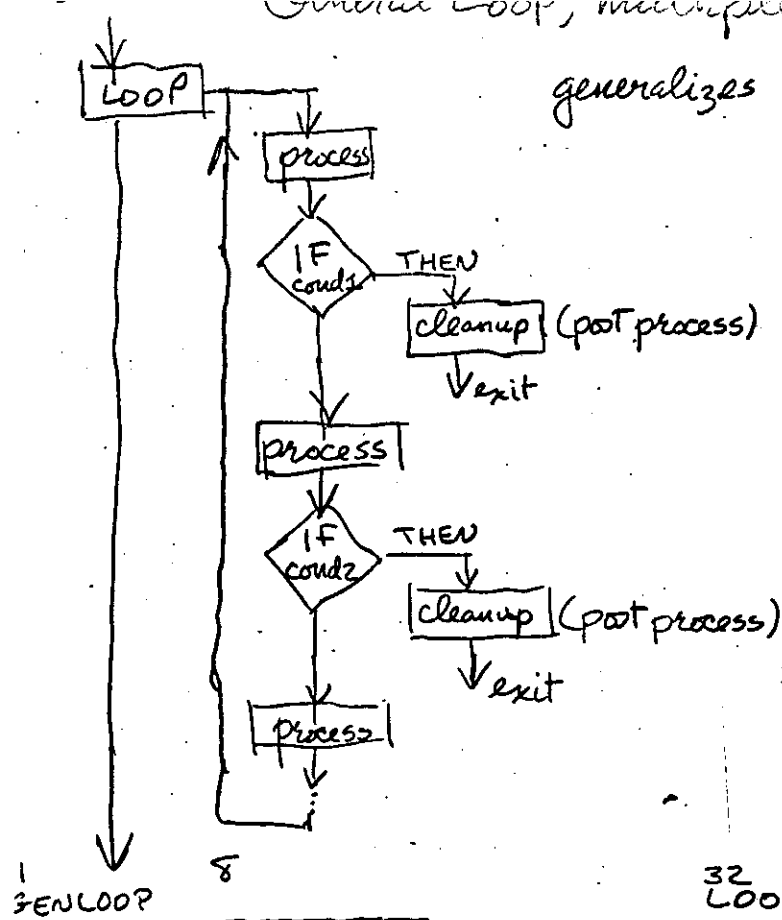
32
DO INDEX = LOWER TO
UPPER

<body>

END DO

General Loop, multiple exits

generalizes DOWHILE
REPEAT UNTIL



1
ENDLOOP

8

```

LDAA ALPHA
CMPA #-10
BLT ENDLOOP1

```

CBA

set up
parameters

```

BLE *+3
JSR POSTPR1
JMP ENDLOOP1

```

ENDLOOP1

32
LOOP

< process >

```

=>EXIT IF
ALPHA LT -10

```

< process >

```

=>EXIT IF
(A) GE (B) find
cleanup

```

< process >
ENDLOOP