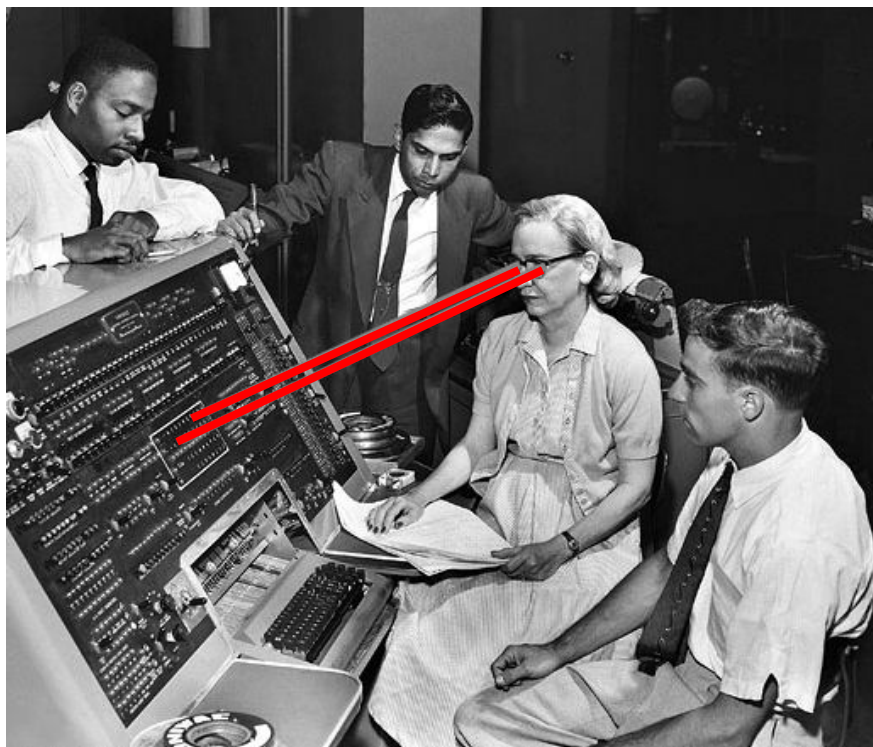


Projecting a Modular Future

Markus Voelter , Jos Warmer , and Bernd Kolb

<http://www.voelter.de/data/pub/projectingModuleFuture.pdf>



REAL PROGRAMMERS

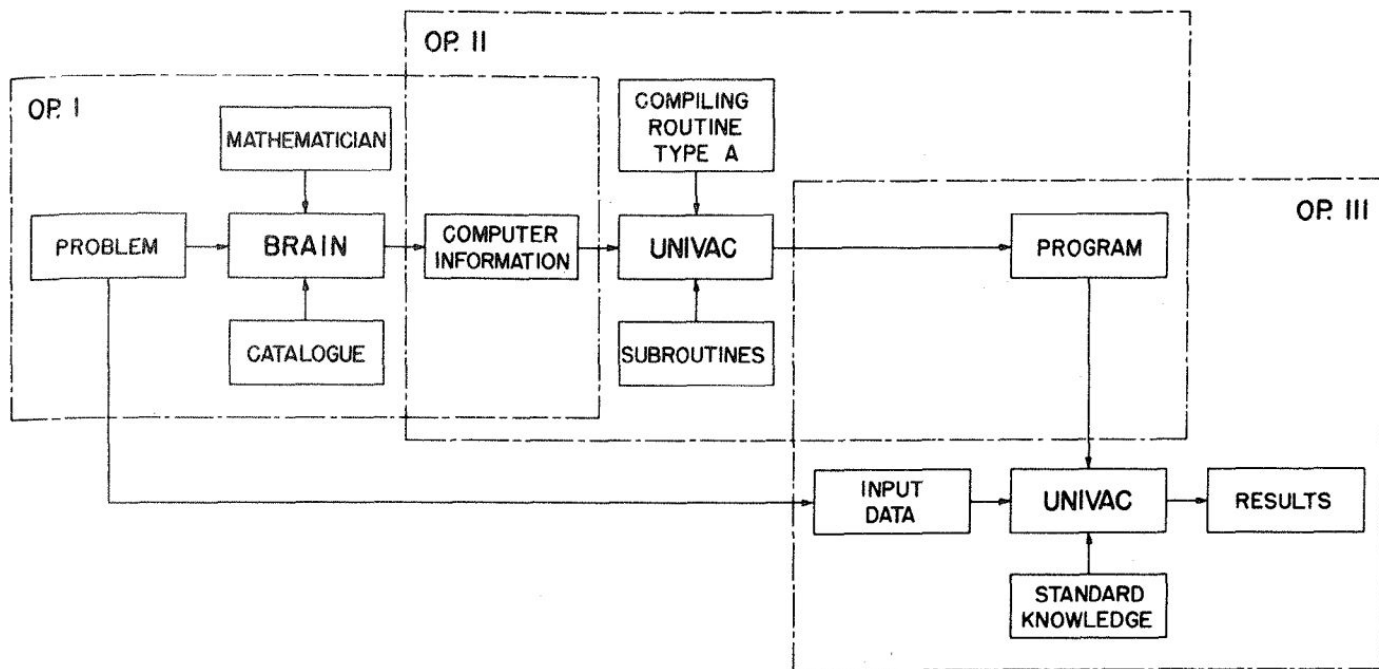


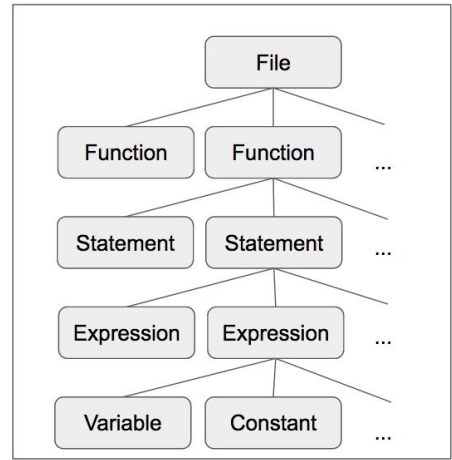
Fig. 5 - COMPILING ROUTINES AND SUBROUTINES

035100	ENABL-STATUS-TEST-01.	CM2024.2
035200	MOVE "ENABLE TERMINAL" TO FEATURE.	CM2024.2
035300	MOVE "BAD PASSWORD SUPPLIED" TO RE-MARK.	CM2024.2
035400	ENABLE INPUT TERMINAL CM-INQUE-1 WITH KEY "GARBAGE".	CM2024.2
035500	IF IN-STATUS IS EQUAL TO "40"	CM2024.2
035600	PERFORM PASS GO TO ENABL-STATUS-WRITE-01.	CM2024.2
035700	MOVE IN-STATUS TO COMPUTED-STATUS.	CM2024.2
035800	MOVE "40" TO CORRECT-STATUS.	CM2024.2
035900	PERFORM FAIL.	CM2024.2
036000	GO TO ENABL-STATUS-WRITE-01.	CM2024.2
036100	ENABL-STATUS-DELETE-01.	CM2024.2
036200	PERFORM DE-LETE.	CM2024.2
036300	ENABL-STATUS-WRITE-01.	CM2024.2
036400	MOVE "ENABL-STATUS-TEST-01" TO PAR-NAME.	CM2024.2
036500	PERFORM PRINT-DETAIL.	CM2024.2
036600	ENABL-STATUS-TEST-02.	CM2024.2
036700	MOVE "BAD SOURCE NAME USED" TO RE-MARK.	CM2024.2
036800	MOVE "GARBAGE" TO SYM-SOURCE.	CM2024.2
036900	ENABLE INPUT TERMINAL CM-INQUE-1 WITH KEY	CM2024.2
U:**- *scratch* 55% L351 (Lisp Interaction)		

```

035100 ENABL-STATUS-TEST-01.      O02024.2
035200 MOVE "ENABLE TERMINAL" TO FEATURE.      O02024.2
035300 MOVE "BAD PASSWORD SUPPLIED" TO RE-MARK.      O02024.2
035400 ENABLE INPUT TERMINAL ON-INQ-1 WITH KEY "GARBAGE".      O02024.2
035500 IF IN-STATUS IS EQUAL TO "40"      O02024.2
035600 PERFORM PASS GO TO ENABL-STATUS-WRITE-01.      O02024.2
035700 MOVE IN-STATUS TO COMPUTED-STATUS.      O02024.2
035800 MOVE "40" TO CORRECT-STATUS.      O02024.2
035900 PERFORM FAIL.      O02024.2
036000 GO TO ENABL-STATUS-WRITE-01.      O02024.2
036100 ENABL-STATUS-DELETE-01.      O02024.2
036200 PERFORM DC-LEFT.      O02024.2
036300 ENABL-STATUS-WRITE-01.      O02024.2
036400 MOVE "ENABL-STATUS-TEST-01" TO PAR-NAME.      O02024.2
036500 PERFORM PRINT-DETAIL.      O02024.2
036600 ENABL-STATUS-TEST-02.      O02024.2
036700 MOVE "BAD SOURCE NAME USED" TO RE-MARK.      O02024.2
036800 MOVE "GARBAGE" TO SYN-SOURCE.      O02024.2
036900 ENABLE INPUT TERMINAL ON-INQ-1 WITH KEY      O02024.2
View-- 45444444 554 1341 (Lisp Interaction)

```



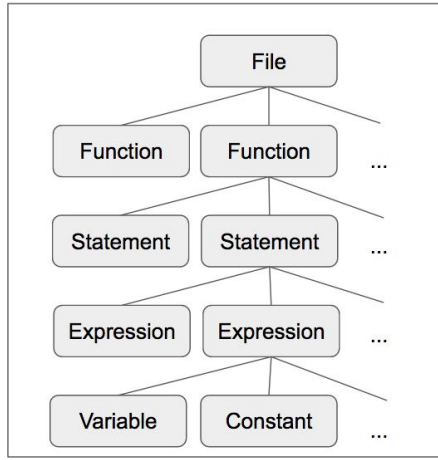
ABSTRACT SYNTAX TREE



```

00101010101010101
1010100100100101
010100100100101
010101010101010
101010101010101
010101010101010
101010101010101
010101010101001

```



ABSTRACT SYNTAX TREE



```

035100 ENABL-STATUS-TEST-01. CM2024.2
035200 MOVE "ENABLE TERMINAL" TO FEATURE. CM2024.2
035300 MOVE "BAD PASSWORD SUPPLIED" TO RE-MARK. CM2024.2
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036000 GO TO ENABL-STATUS-WRITE-01. CM2024.2
036100 ENABL-STATUS-DELETE-01. CM2024.2
036200 PERFORM DE-LETE. CM2024.2
036300 ENABL-STATUS-WRITE-01. CM2024.2
036400 MOVE "ENABL-STATUS-TEST-01" TO PAR-NAME. CM2024.2
036500 PERFORM PRINT-DETAIL. CM2024.2
036600 ENABL-STATUS-TEST-02. CM2024.2
036700 MOVE "BAD SOURCE NAME USED" TO RE-MARK. CM2024.2
036800 MOVE "GARBAGE" TO SYM-SOURCE. CM2024.2
036900 ENABLE INPUT TERMINAL CM-INQUE-1 WITH KEY CM2024.2
U:***- *scratch* 55% L351 (Lisp Interaction)
  
```



```

001010101010101
101010010010101
010100100100101
010101010101010
101010101010101
010101010101010
101010101010101
010101010101001
  
```

$$\text{double maths} = \log_{10} \left| \sqrt{\frac{\sum_{i=0}^{\text{count}} p_i^i}{42}} \right|;$$

```
double result = (count % 23 == 0) (count % 76 == 0) otherwise maths;
(maths > 100.0) maths * 2.0 maths * 3.0
(maths < 100.0) maths * 200.0 maths * 300.0
```

```
// Don't screw up your units.
```

```
uint32/m/ distance = 16 m;
```

```
uint32/m·s-1/ speed =  $\frac{\text{distance}}{5 \text{ s}}$  ;
```

```
uint32/km·h-1/ limit = 100 kph;
```

```
do {  
    printf("You're going too fast!");  
} unless ( speed <= limit ) ;
```


DEMO TIME