

```

1  ( EG00.ASM - one can't avoid this one! )
2
3 "Hello world"
4
5 HALT
6
7 (-----)
8
9 ( EG01.ASM - example showing reverse polish expression evaluation )
10
11 40 5 + 3 * . ( should print 135 )
12
13 HALT
14
15 (-----)
16
17 ( EG02.ASM - will divide by zero and crash )
18
19 VARIABLE A VARIABLE B VARIABLE C
20
21 C A @ B @ / ! ( c = a / b )
22
23 HALT
24
25 (-----)
26
27 ( EG03.ASM - store and retrieve a variable )
28
29 VARIABLE MeaningOfLife
30
31 MeaningOfLife 42 !
32
33 "The Meaning Of Life is "
34
35 MeaningOfLife @ .
36
37 HALT
38
39 (-----)
40
41 ( EG04.ASM - some variables and constants )
42
43 VARIABLE x
44 CONSTANT pi 22
45
46 pi . ( should print 22 )
47
48 x pi ! ( x should now be 22 )
49
50 x @ x @ * . ( should display 484 )
51
52 HALT
53
54 (-----)
55
56 ( EG05.ASM - simple tests of logical operations )
57
58 true false and .B ( should display false )
59
60 true true and .B ( should display true )
61
62 false true or .B ( should display true )
63
64 false not .B ( should display true )
65
66 HALT
67
68 (-----)
69
70 ( EG06.ASM - simple tests of DUP and ABS words )
71 ( note that we can write really silly code to test these
72 operations; we do not need meaningful programs! )
73
74 3 dup * . ( should display 9 )
75 cr ( new line )
76
77 -56 abs . ( should display 56 )
78 cr ( new line )
79
80 HALT
81
82 (-----)
83

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```

84  ( EG07.ASM - simple tests of character operations )
85
86  VARIABLE ch
87
88  ch ?c          ( read ch )
89  ch @ .         ( should display ascii value for character just read )
90  cr             ( new line )
91  ch @ .c        ( should echo character read )
92
93  "\nLess than Z? "
94  ch @ 'Z' < .b   ( will display true if character read was less than 'Z' )
95
96  "\nLetter/digit? "
97  ch @ ISLD .b    ( will display true if it was a letter or digit )
98
99  "\nuppercase equivalent "
100 ch @ CAP .c     ( should display upper case equivalent of character read )
101
102 HALT
103
104 (-----)
105
106 ( EG08.ASM - simple tests of ++ and -- )
107
108 VARIABLE A
109
110 A 12 ! A ++ A @ .   ( should display 13 )
111
112 A 25 ! A -- A @ .   ( should display 24 )
113
114 HALT
115
116 (-----)
117
118 ( EG09.ASM - test some escape sequences )
119
120 ( 1      2      3      4
121     Hello
122     dear
123     world
124 )
125
126 "1\t2\t3\t4\nHello\ndear\nworld"
127
128 HALT
129
130 (-----)
131
132 ( EG10.ASM - test some array operations )
133
134 VARIABLE list VARIABLE index
135
136 list 3 new !   ( Allocate space for small array )
137
138 "supply subscript 0 - 2 or larger to break it "
139 index ?          ( read index )
140
141 list @ index @ [] 45 !   ( list[index] = 45 )
142 list @ index @ [] ++    ( list[index]++ )
143 list @ index @ [] @ .   ( should display 46 )
144
145 HALT
146
147 (-----)
148
149 ( EG11.ASM - simple IF statement - deeply significant, no doubt )
150
151 VARIABLE age
152 age ?           ( read age )
153
154 age @ 60 > IF          ( if ( age > 60 ) )
155     "Is the meaning of life really " 42 .  ( write("Is the meaning of life really ", 42) )
156 ENDIF
157
158 HALT
159
160 (-----)
161
162 ( EG12.ASM - a silly sequence for testing the if - endif construct )
163
164 true
165 if
166     "You should see this message first and nothing more"
167 endif
168
169 false
170 if
171     "If you see this there is a problem in your compiler"
172 endif
173
174 HALT
175
176 (-----)
177

```

```

178 ( EG13.ASM - Form the sum of a list of numbers terminated with zero )
179
180 VARIABLE X VARIABLE Total
181
182 Total 0 !           ( Total = 0 )
183
184 REPEAT
185   X ?                ( Read(x) )
186   Total X @ Total @ + ! ( Total = x + Total )
187   X @ 0 ==            ( x == 0 ? )
188 UNTIL
189
190 "Total is" Total @ . ( write ("Total is" , Total) )
191
192 HALT
193
194 (-----)
195
196 ( EG14.ASM - simple repeat loop )
197
198 VARIABLE X
199
200 repeat      ( read list and reflect absolute values )
201   X ?
202   X @ abs .
203   cr
204   X @
205   0 ==
206 until
207
208 HALT
209
210 (-----)
211
212 ( EG15.ASM - the STK word is a useful one for inspecting the stack )
213
214 1 2 3 4 5 6 7 8 9 10 STK ( 10 elements )
215 + + + STK             ( 7 elements - top value is now 10+9+8+7 = 34 )
216
217 HALT
218
219 (-----)
220
221 ( EG16.ASM - an upper case conversion without CAP )
222
223 VARIABLE ch
224
225 repeat      ( repeat
226   ch ?c          ( read(ch); )
227   ch @
228   dup 'a' >=
229   if dup 'z' <=
230     if 32 - endif
231   endif
232   .c              ( display CAP(ch) )
233   ch @ '.' ==    ( until (ch == '.') ; )
234 until
235
236 HALT
237
238 (-----)
239
240 ( EG17.ASM - truth tables and nested loops )
241
242 VARIABLE X VARIABLE Y
243
244 " x     y     x & y  x | y" cr cr
245
246 x false ! y false !
247
248 repeat
249   repeat
250     x @ .b
251     y @ .b
252     x @ y @ and .b
253     x @ y @ or .b
254     cr
255     y y @ not ! y @ not
256   until
257   x x @ not ! x @ not
258 until
259
260 HALT
261
262 (-----)
263

```

```

1 File: eg00.pvm
2
3 ASSEM
4 BEGIN
5   { 0 } DSP      0
6   { 2 } PRNS    "Hello world"
7   { 4 } HALT
8 END.
9
10 -----
11
12 File: eg01.pvm
13
14 ASSEM
15 BEGIN
16   { 0 } DSP      0
17   { 2 } LDC     40
18   { 4 } LDC      5
19   { 6 } ADD
20   { 7 } LDC      3
21   { 9 } MUL
22   { 10 } PRNI
23   { 11 } HALT
24 END.
25
26 -----
27
28 File: eg02.pvm
29
30 ASSEM
31 BEGIN
32   { 0 } DSP      3
33   { 2 } LDA      2
34   { 4 } LDA      0
35   { 6 } LDV
36   { 7 } LDA      1
37   { 9 } LDV
38   { 10 } DIV
39   { 11 } STO
40   { 12 } HALT
41 END.
42
43 -----
44
45 File: eg03.pvm
46
47 ASSEM
48 BEGIN
49   { 0 } DSP      1
50   { 2 } LDA      0
51   { 4 } LDC     42
52   { 6 } STO
53   { 7 } PRNS    "The Meaning Of Life is "
54   { 9 } LDA      0
55   { 11 } LDV
56   { 12 } PRNI
57   { 13 } HALT
58 END.
59
60 -----
61
62 File: eg04.pvm
63
64 ASSEM
65 BEGIN
66   { 0 } DSP      1
67   { 2 } LDC     22
68   { 4 } PRNI
69   { 5 } LDA      0
70   { 7 } LDC     22
71   { 9 } STO
72   { 10 } LDA     0
73   { 12 } LDV
74   { 13 } LDA     0
75   { 15 } LDV
76   { 16 } MUL
77   { 17 } PRNI
78   { 18 } HALT
79 END.
80
81 -----
82

```

```

83  File: eg05.pvm
84
85 ASSEM
86 BEGIN
87   { 0 } DSP    0
88   { 2 } LDC    1
89   { 4 } LDC    0
90   { 6 } AND
91   { 7 } PRNB
92   { 8 } LDC    1
93   { 10 } LDC   1
94   { 12 } AND
95   { 13 } PRNB
96   { 14 } LDC    0
97   { 16 } LDC    1
98   { 18 } OR
99   { 19 } PRNB
100  { 20 } LDC   0
101  { 22 } NOT
102  { 23 } PRNB
103  { 24 } HALT
104 END.
105 -----
106 -----
107 File: eg06.pvm
108
109 ASSEM
110 BEGIN
111   { 0 } DSP    0
112   { 2 } LDC    3
113   { 4 } DUP
114   { 5 } MUL
115   { 6 } PRNI
116   { 7 } PRNL
117   { 8 } LDC   -56
118   { 10 } ABS
119   { 11 } PRNI
120   { 12 } PRNL
121   { 13 } HALT
122
123 END.
124 -----
125 -----
126 File: eg07.pvm
127
128 ASSEM
129 BEGIN
130   { 0 } DSP    1
131   { 2 } LDA    0
132   { 4 } INPC
133   { 5 } LDA    0
134   { 7 } LDV
135   { 8 } PRNI
136   { 9 } PRNL
137   { 10 } LDA   0
138   { 12 } LDV
139   { 13 } PRNC
140   { 14 } PRNS  "\nLess than Z? "
141   { 16 } LDA    0
142   { 18 } LDV
143   { 19 } LDC   90
144   { 21 } CLT
145   { 22 } PRNB
146   { 23 } PRNS  "\nLetter/digit? "
147   { 25 } LDA    0
148   { 27 } LDV
149   { 28 } ISLD
150   { 29 } PRNB
151   { 30 } PRNS  "\nUppercase equivalent "
152   { 32 } LDA    0
153   { 34 } LDV
154   { 35 } CAP
155   { 36 } PRNC
156   { 37 } HALT
157
158 END.
159 -----
160 -----
161

```

```

162 File: eg08.pvm
163
164 ASSEM
165 BEGIN
166   { 0 } DSP      1
167   { 2 } LDA      0
168   { 4 } LDC     12
169   { 6 } STO
170   { 7 } LDA      0
171   { 9 } INC
172   { 10 } LDA     0
173   { 12 } LDV
174   { 13 } PRNI
175   { 14 } LDA      0
176   { 16 } LDC     25
177   { 18 } STO
178   { 19 } LDA      0
179   { 21 } DEC
180   { 22 } LDA      0
181   { 24 } LDV
182   { 25 } PRNI
183   { 26 } HALT
184 END.
185 -----
186 -----
187 File: eg09.pvm
188
189 ASSEM
190 BEGIN
191   { 0 } DSP      0
192   { 2 } PRNS    "1\t2\t3\t4\nHello\nDear\nWorld"
193   { 4 } HALT
194 END.
195 -----
196 -----
197 File: eg10.pvm
198
199 ASSEM
200 BEGIN
201   { 0 } DSP      2
202   { 2 } LDA      0
203   { 4 } LDC      3
204   { 6 } ANEW
205   { 7 } STO
206   { 8 } PRNS    "Supply subscript 0 - 2 or larger to break it "
207   { 10 } LDA     1
208   { 12 } INPI
209   { 13 } LDA      0
210   { 15 } LDV
211   { 16 } LDA     1
212   { 18 } LDV
213   { 19 } LDXA
214   { 20 } LDC     45
215   { 22 } STO
216   { 23 } LDA      0
217   { 25 } LDV
218   { 26 } LDA     1
219   { 28 } LDV
220   { 29 } LDXA
221   { 30 } INC
222   { 31 } LDA      0
223   { 33 } LDV
224   { 34 } LDA     1
225   { 36 } LDV
226   { 37 } LDXA
227   { 38 } LDV
228   { 39 } PRNI
229   { 40 } HALT
230 END.
231 -----
232 -----
233 File: eg11.pvm
234
235 ASSEM
236 BEGIN
237   { 0 } DSP      1
238   { 2 } LDA      0
239   { 4 } INPI
240   { 5 } LDA      0
241   { 7 } LDV
242   { 8 } LDC     60
243   { 10 } CGT
244   { 11 } BZE     18
245   { 13 } PRNS    "Is the meaning of life really "
246   { 15 } LDC     42
247   { 17 } PRNI
248   { 18 } HALT
249 END.
250 -----
251 -----
252 -----
253 -----
254 -----
255 
```

```

256 File: eg12.pvm
257
258 ASSEM
259 BEGIN
260   { 0 } DSP    0
261   { 2 } LDC    1
262   { 4 } BZE    8
263   { 6 } PRNS   "You should see this message first and nothing more"
264   { 8 } LDC    0
265   { 10 } BZE   14
266   { 12 } PRNS  "If you see this there is a problem in your compiler"
267   { 14 } HALT
268 END.
269 -----
270 -----
271 File: eg13.pvm
272
273 ASSEM
274 BEGIN
275   { 0 } DSP    2
276   { 2 } LDA    1
277   { 4 } LDC    0
278   { 6 } STO
279   { 7 } LDA    0
280   { 9 } INPI
281   { 10 } LDA   1
282   { 12 } LDA   0
283   { 14 } LDV
284   { 15 } LDA   1
285   { 17 } LDV
286   { 18 } ADD
287   { 19 } STO
288   { 20 } LDA   0
289   { 22 } LDV
290   { 23 } LDC   0
291   { 25 } CEQ
292   { 26 } BZE    7
293   { 28 } PRNS   "Total is"
294   { 30 } LDA   1
295   { 32 } LDV
296   { 33 } PRNI
297   { 34 } HALT
298 END.
299 -----
300 -----
301 File: eg14.pvm
302
303 ASSEM
304 BEGIN
305   { 0 } DSP    1
306   { 2 } LDA    0
307   { 4 } INPI
308   { 5 } LDA
309   { 7 } LDV
310   { 8 } ABS
311   { 9 } PRNI
312   { 10 } PRNL
313   { 11 } LDA   0
314   { 13 } LDV
315   { 14 } LDC   0
316   { 16 } CEQ
317   { 17 } BZE   2
318   { 19 } HALT
319 END.
320 -----
321 -----
322 File: eg15.pvm
323
324 ASSEM
325 BEGIN
326   { 0 } DSP    0
327   { 2 } LDC    1
328   { 4 } LDC    2
329   { 6 } LDC    3
330   { 8 } LDC    4
331   { 10 } LDC   5
332   { 12 } LDC   6
333   { 14 } LDC   7
334   { 16 } LDC   8
335   { 18 } LDC   9
336   { 20 } LDC   10
337   { 22 } STK
338   { 23 } ADD
339   { 24 } ADD
340   { 25 } ADD
341   { 26 } STK
342   { 27 } HALT
343 END.
344 -----
345 -----
346
347 -----
348 -----
349

```

```

350  File: eg16.pvm
351
352 ASSEM
353 BEGIN
354   { 0 } DSP    1
355   { 2 } LDA    0
356   { 4 } INPC
357   { 5 } LDA    0
358   { 7 } LDV
359   { 8 } DUP
360   { 9 } LDC   97
361   { 11 } CGE
362   { 12 } BZE   23
363   { 14 } DUP
364   { 15 } LDC  122
365   { 17 } CLE
366   { 18 } BZE   23
367   { 20 } LDC   32
368   { 22 } SUB
369   { 23 } PRNC
370   { 24 } LDA    0
371   { 26 } LDV
372   { 27 } LDC   46
373   { 29 } CEQ
374   { 30 } BZE   2
375   { 32 } HALT
376 END.
377 -----
378
379
380 File: eg17.pvm
381
382 ASSEM
383 BEGIN
384   { 0 } DSP    2
385   { 2 } PRNS   " x     y     x & y x | y"
386   { 4 } PRNL
387   { 5 } PRNL
388   { 6 } LDA    0
389   { 8 } LDC    0
390   { 10 } STO
391   { 11 } LDA   1
392   { 13 } LDC   0
393   { 15 } STO
394   { 16 } LDA   0
395   { 18 } LDV
396   { 19 } PRNB
397   { 20 } LDA   1
398   { 22 } LDV
399   { 23 } PRNB
400   { 24 } LDA   0
401   { 26 } LDV
402   { 27 } LDA   1
403   { 29 } LDV
404   { 30 } AND
405   { 31 } PRNB
406   { 32 } LDA   0
407   { 34 } LDV
408   { 35 } LDA   1
409   { 37 } LDV
410   { 38 } OR
411   { 39 } PRNB
412   { 40 } PRNL
413   { 41 } LDA   1
414   { 43 } LDA   1
415   { 45 } LDV
416   { 46 } NOT
417   { 47 } STO
418   { 48 } LDA   1
419   { 50 } LDV
420   { 51 } NOT
421   { 52 } BZE   16
422   { 54 } LDA   0
423   { 56 } LDA   0
424   { 58 } LDV
425   { 59 } NOT
426   { 60 } STO
427   { 61 } LDA   0
428   { 63 } LDV
429   { 64 } NOT
430   { 65 } BZE   16
431   { 67 } HALT
432 END.
433 -----
434

```

```

1  ( EG101.asm - simple tests of swap, over and drop words )
2  ( note that we can write really silly code to test these
3    operations; we do not need meaningful programs! )
4
5  1 2 swap . .   ( should display 1 2 )
6  cr           ( new line )
7
8  stk         ( should be empty )
9
10 4 5 drop .   ( should display 4 )
11 cr           ( new line )
12
13 stk         ( should be empty )
14
15 234 126 -45 130
16 stk         ( four elements )
17 over
18 stk         ( five elements )
19
20 drop drop drop drop drop ( pop them all off )
21
22 stk         ( should be empty )
23 cr           ( new line )
24
25 HALT
26
27 (-----)
28
29 ( EG102.ASM - mystery code )
30
31 VARIABLE x VARIABLE y
32
33 x ? y ?
34
35 OVER OVER > IF SWAP ENDIF DROP .
36
37 HALT
38
39 (-----)
40
41 ( EG103.ASM - simple test of IF - ELSE - ENDIF )
42
43 VARIABLE x
44 CONSTANT age 63
45
46 "Guess my age! "
47
48 x ? x @ age ==
49
50 IF "correct" ELSE "incorrect" ENDIF
51
52 HALT
53
54 (-----)
55
56 ( EG104.ASM - boolean check a sequence of characters for being digits )
57
58 VARIABLE ch
59
60 repeat
61   ch ?c
62   ch @
63   dup '0' <
64   if
65     drop false
66   else
67     '9' > if false else true endif
68   endif
69   .b cr
70   ch @ '.' ==
71 until
72
73 HALT
74
75 (-----)
76
77 ( EG105.ASM - new word 0== )
78
79 VARIABLE x
80
81 repeat
82   x ?         ( read x )
83   x @ 0==
84   if "zero" else "non-zero" endif
85   x @ 0==
86 until
87
88 HALT
89
90 (-----)
91

```

```

92  ( EG106.ASM - bad constructs - can you detect the errors? )
93
94  repeat
95      "in Loop"
96      endif
97  repeat
98      "in second loop"
99      true
100 until
101
102 HALT
103
104 (-----)
105
106 ( EG107.ASM - simple colon definition )
107
108 VARIABLE X
109
110 : =0 0 == ; ( test for zero )
111
112 : @. @ . ; ( dereference and print )
113
114 repeat
115     "\nPlease supply a number "
116     x ?          ( read x )
117     x dup @ =0
118     if @. " is zero " else @. " is non-zero " endif
119     x @ =0
120 until
121
122 HALT
123
124 (-----)
125
126 ( EG108.ASM - colon definitions )
127
128 : <0 0 < ; ( test negative )
129
130 : @=0 @ 0 == ; ( deref and test zero )
131
132 : abs           ( one way of doing it! )
133 dup
134 <0
135 if negate endif
136 ;
137
138 VARIABLE X
139
140 repeat          ( repeat )
141     x ?          ( read(x) )
142     x @ abs .    ( write(abs(x)) )
143 cr
144     x @=0        ( until (x == 0) )
145 until
146
147 HALT
148
149 (-----)
150
151 ( EG109.ASM - colon definitions - an upper case conversion )
152
153 : toUpper        ( if ('a' <= tos <= 'z') tos == 32 )
154 dup 'a' >=
155     if dup 'z' <=
156         if 32 - endif
157     endif
158 ;
159
160 VARIABLE ch
161
162 repeat          ( repeat )
163     ch ?c          ( read(ch) )
164     ch @ toUpper .c ( write(toUpper(ch)) )
165
166     ch @ '.' ==    ( until (ch == '.') ; )
167 until
168
169 HALT
170
171 (-----)
172
173 ( ED110.ASM - colon definitions and showing reverse polish expression evaluation )
174
175 : PEEK DUP . DUP .c ;
176
177 65 PEEK 72 PEEK 3 * + . ( should print 281 )
178
179 HALT
180
181 (-----)
182

```

```
183  ( EG111.ASM - colon definitions - count number of positive and negative values )
184
185  VARIABLE x
186  VARIABLE pos
187  VARIABLE neg
188
189  : EVALUATE @ 0 >= IF "positive" pos ++ ELSE "negative" neg ++ ENDIF cr ;
190
191  : read(x) "\nsupply next number " x ? ;
192
193  : =0 0 ! ;
194
195  : display @ . ;
196
197  : zero? @ 0 == ;
198
199  pos =0
200  neg =0
201  repeat
202    read(x) x dup evaluate
203    zero?
204  until
205  pos display " non-negative numbers" cr
206  neg display " negative numbers" cr
207
208  HALT
209
210  (-----)
```

```

1  File: EG101.pvm
2
3  ASSEM
4  BEGIN
5    { 0 } DSP      0
6    { 2 } LDC      1
7    { 4 } LDC      2
8    { 6 } SWAP
9    { 7 } PRNI
10   { 8 } PRNI
11   { 9 } PRNL
12   { 10 } STK
13   { 11 } LDC     4
14   { 13 } LDC     5
15   { 15 } DROP
16   { 16 } PRNI
17   { 17 } PRNL
18   { 18 } STK
19   { 19 } LDC     234
20   { 21 } LDC     126
21   { 23 } LDC     -45
22   { 25 } LDC     130
23   { 27 } STK
24   { 28 } OVER
25   { 29 } STK
26   { 30 } DROP
27   { 31 } DROP
28   { 32 } DROP
29   { 33 } DROP
30   { 34 } DROP
31   { 35 } STK
32   { 36 } PRNL
33   { 37 } HALT
34 END.
35 -----
36 -----
37
38 File: EG102.pvm
39
40 ASSEM
41 BEGIN
42   { 0 } DSP      2
43   { 2 } LDA      0
44   { 4 } INPI
45   { 5 } LDA      1
46   { 7 } INPI
47   { 8 } OVER
48   { 9 } OVER
49   { 10 } CGT
50   { 11 } BZE     14
51   { 13 } SWAP
52   { 14 } DROP
53   { 15 } PRNI
54   { 16 } HALT
55 END.
56 -----
57 -----
58
59 File: EG103.pvm
60
61 ASSEM
62 BEGIN
63   { 0 } DSP      1
64   { 2 } PRNS     "Guess my age! "
65   { 4 } LDA      0
66   { 6 } INPI
67   { 7 } LDA      0
68   { 9 } LDV
69   { 10 } LDC     63
70   { 12 } CEQ
71   { 13 } BZE     19
72   { 15 } PRNS     "correct"
73   { 17 } BRN     21
74   { 19 } PRNS     "incorrect"
75   { 21 } HALT
76 END.
77 -----
78 -----
79

```

```

80  File: EG104.pvm
81
82 ASSEM
83 BEGIN
84   { 0 } DSP    1
85   { 2 } LDA    0
86   { 4 } INPC
87   { 5 } LDA    0
88   { 7 } LDV
89   { 8 } DUP
90   { 9 } LDC    48
91   { 11 } CLT
92   { 12 } BZE   19
93   { 14 } DROP
94   { 15 } LDC   0
95   { 17 } BRN   30
96   { 19 } LDC   57
97   { 21 } CGT
98   { 22 } BZE   28
99   { 24 } LDC   0
100  { 26 } BRN   30
101  { 28 } LDC   1
102  { 30 } PRNB
103  { 31 } PRNL
104  { 32 } LDA   0
105  { 34 } LDV
106  { 35 } LDC   46
107  { 37 } CEQ
108  { 38 } BZE   2
109  { 40 } HALT
110 END.
111 -----
113
114 File: EG105.pvm
115
116 ASSEM
117 BEGIN
118   { 0 } DSP    1
119   { 2 } LDA    0
120   { 4 } INPI
121   { 5 } LDA    0
122   { 7 } LDV
123   { 8 } LDC    0
124   { 10 } CEQ
125   { 11 } BZE   17
126   { 13 } PRNS  "zero"
127   { 15 } BRN   19
128   { 17 } PRNS  "non-zero"
129   { 19 } LDA   0
130   { 21 } LDV
131   { 22 } LDC   0
132   { 24 } CEQ
133   { 25 } BZE   2
134   { 27 } HALT
135 END.
136 -----
137
138
139 File: EG106.pvm
140
141 ASSEM
142 BEGIN
143   { 0 } DSP    0
144   { 2 } PRNS  "in loop"
145   { 4 } PRNS  "in second loop"
146   { 6 } LDC   1
147   { 8 } BZE   4
148   { 10 } HALT
149 END.
150 -----
151
152

```

```

153 File: EG107.pvm
154
155 ASSEM
156 BEGIN
157   { 0 } DSP    1
158   { 2 } PRNS  "\nPlease supply a number "
159   { 4 } LDA    0
160   { 6 } INPI
161   { 7 } LDA    0
162   { 9 } DUP
163   { 10 } LDV
164   { 11 } LDC    0
165   { 13 } CEQ
166   { 14 } BZE    22
167   { 16 } LDV
168   { 17 } PRNI
169   { 18 } PRNS  " is zero "
170   { 20 } BRN    26
171   { 22 } LDV
172   { 23 } PRNI
173   { 24 } PRNS  " is non-zero "
174   { 26 } LDA    0
175   { 28 } LDV
176   { 29 } LDC    0
177   { 31 } CEQ
178   { 32 } BZE    2
179   { 34 } HALT
180 END.
181 -----
182 -----
183
184 File: EG108.pvm
185
186 ASSEM
187 BEGIN
188   { 0 } DSP    1
189   { 2 } LDA    0
190   { 4 } INPI
191   { 5 } LDA    0
192   { 7 } LDV
193   { 8 } DUP
194   { 9 } LDC    0
195   { 11 } CLT
196   { 12 } BZE    15
197   { 14 } NEG
198   { 15 } PRNI
199   { 16 } PRNL
200   { 17 } LDA    0
201   { 19 } LDV
202   { 20 } LDC    0
203   { 22 } CEQ
204   { 23 } BZE    2
205   { 25 } HALT
206 END.
207 -----
208 -----
209
210 File: EG109.pvm
211
212 ASSEM
213 BEGIN
214   { 0 } DSP    1
215   { 2 } LDA    0
216   { 4 } INPC
217   { 5 } LDA    0
218   { 7 } LDV
219   { 8 } DUP
220   { 9 } LDC    97
221   { 11 } CGE
222   { 12 } BZE    23
223   { 14 } DUP
224   { 15 } LDC    122
225   { 17 } CLE
226   { 18 } BZE    23
227   { 20 } LDC    32
228   { 22 } SUB
229   { 23 } PRNC
230   { 24 } LDA    0
231   { 26 } LDV
232   { 27 } LDC    46
233   { 29 } CEQ
234   { 30 } BZE    2
235   { 32 } HALT
236 END.
237 -----
238 -----
239

```

```

240 File: EG110.pvm
241
242 ASSEM
243 BEGIN
244   { 0 } DSP    0
245   { 2 } LDC   65
246   { 4 } DUP
247   { 5 } PRNI
248   { 6 } DUP
249   { 7 } PRNC
250   { 8 } LDC   72
251   { 10 } DUP
252   { 11 } PRNI
253   { 12 } DUP
254   { 13 } PRNC
255   { 14 } LDC   3
256   { 16 } MUL
257   { 17 } ADD
258   { 18 } PRNI
259   { 19 } HALT
260 END.
261 -----
262 -----
263
264 File: EG111.pvm
265
266 ASSEM
267 BEGIN
268   { 0 } DSP    3
269   { 2 } LDA    1
270   { 4 } LDC    0
271   { 6 } STO
272   { 7 } LDA    2
273   { 9 } LDC    0
274   { 11 } STO
275   { 12 } PRNS  "\nSupply next number "
276   { 14 } LDA    0
277   { 16 } INPI
278   { 17 } LDA    0
279   { 19 } DUP
280   { 20 } LDV
281   { 21 } LDC    0
282   { 23 } CGE
283   { 24 } BZE   33
284   { 26 } PRNS  "positive"
285   { 28 } LDA    1
286   { 30 } INC
287   { 31 } BRN   38
288   { 33 } PRNS  "negative"
289   { 35 } LDA    2
290   { 37 } INC
291   { 38 } PRNL
292   { 39 } LDV
293   { 40 } LDC    0
294   { 42 } CEQ
295   { 43 } BZE   12
296   { 45 } LDA    1
297   { 47 } LDV
298   { 48 } PRNI
299   { 49 } PRNS  " non-negative numbers"
300   { 51 } PRNL
301   { 52 } LDA    2
302   { 54 } LDV
303   { 55 } PRNI
304   { 56 } PRNS  " negative numbers"
305   { 58 } PRNL
306   { 59 } HALT
307 END.
308 -----
309 -----
310

```