

```

1 IDENTIFICATION DIVISION.
2 PROGRAM-ID. ANNUITY.
3 DATA DIVISION.
4 WORKING-STORAGE SECTION.
5 01 TOTAL-LOAN PIC 9(9)V99 VALUE 100000.
6 01 INTEREST-RATE PIC 999V99 VALUE 0.05. *> INTEREST OF 5%
7 01 INTEREST-RATEP PIC 999V99 VALUE ZERO.
8 01 MONTHS PIC 999 VALUE ZERO.
9 01 YEARS PIC 999 VALUE ZERO.
10 01 MONTHLY-PAYMENT PIC 9(9)V99 .
11 01 COUNTER PIC 999 VALUE ZERO.
12 ***** INPUT VARIABLES TO TEST IF VALID*****
13
14 01 TOTAL-LOAN-INPUT PIC X(15) VALUE SPACE.
15 01 INTEREST-RATE-INPUT PIC X(15) VALUE SPACE.
16 01 INTEREST-RATEP-INPUT PIC X(15) VALUE SPACE.
17 01 YEAR-INPUT PIC X(15) VALUE SPACE.
18 01 VALID-INPUT PIC X(01) VALUE 'N'.
19 88 VALID-INPUT-RECEIVED VALUE 'Y'.
20 88 INVALID-INPUT-RECEIVED VALUE 'N'.
21 01 TEMP-VARIABLE-STORAGE.
22 05 TEST-INPUT PIC X(15) VALUE SPACE.
23 *****DISPLAY VARIABLES*****
24 01 DISPLAY-TOTAL-LOAN PIC Z(9).99.
25 01 DISPLAY-INTEREST-RATE PIC ZZZ.99.
26 01 DISPLAY-INTEREST-RATEP PIC ZZZ.
27 01 DISPLAY-INTEREST-PERCENT PIC X(8).
28 01 DISPLAY-MONTHLY-PAYMENT PIC Z(9).99.
29 01 DISPLAY-YEAR-INPUT PIC XXX.
30
31 PROCEDURE DIVISION.
32 ***ACCEPTING THE USER RESPONSE FOR VARIABLES*****
33 DISPLAY "WHATS THE TOTAL LOAN?".
34 * DOES NOT WORK FOR DECIMAL POINT INPUTS ATM (E.X: 100.00)
35 * PERFORM WITH TEST AFTER UNTIL VALID-INPUT-RECEIVED
36 PERFORM 000-VALIDATE-INPUT.
37 IF VALID-INPUT-RECEIVED THEN
38 COMPUTE TOTAL-LOAN = FUNCTION NUMVAL(TOTAL-LOAN-
39 - INPUT)
40 MOVE TOTAL-LOAN TO DISPLAY-TOTAL-LOAN
41 END-IF.
42
43 DISPLAY "WHATS THE INTEREST RATE(E.X: 0.05)".
44 PERFORM 001-VALIDATE-INTEREST-INPUT.
45 IF VALID-INPUT-RECEIVED THEN
46 COMPUTE INTEREST-RATE = FUNCTION NUMVAL(INTEREST-RATE-
47 - INPUT)
48 MOVE INTEREST-RATE TO DISPLAY-INTEREST-RATE
49 END-IF.
50
51 MOVE INTEREST-RATE TO DISPLAY-INTEREST-RATE.
52 DISPLAY "ENTER THE YEARS:".
53 PERFORM 002-VALIDATE-YEAR-INPUT.
54
55 IF VALID-INPUT-RECEIVED THEN
56 COMPUTE YEARS = FUNCTION NUMVAL-C(YEAR-INPUT)
57 MOVE YEAR-INPUT TO DISPLAY-YEAR-INPUT
58 END-IF.
59
60 MOVE INTEREST-RATEP TO DISPLAY-INTEREST-RATEP.
61 MOVE DISPLAY-INTEREST-RATEP TO DISPLAY-
62 - INTEREST-PERCENT.
63 *****DISPLAYING THE INPUT VALUES TO ENSURE ITS ACCEPTED*****
64 COMPUTE INTEREST-RATEP = INTEREST-RATE * 100.
65 MOVE INTEREST-RATEP TO DISPLAY-INTEREST-RATEP.
66 DISPLAY 'TOTAL-LOAN: ' DISPLAY-TOTAL-LOAN ' USD - INTEREST-
67 - 'RATE: ' DISPLAY-INTEREST-RATEP '%'.
68 DISPLAY ' Y M AMOUNT '
69 DISPLAY '--- --'

```

```

70         PERFORM 003-CALCULATE-ANNUITY.
71
72
73
74
75
76
77     *      ACCEPT OMITTED
78           GOBACK.
79
80 *****EVALUATE INPUT PARAGRAPH*****
81 000-VALIDATE-INPUT.
82     INITIALIZE VALID-INPUT.
83     PERFORM WITH TEST AFTER UNTIL VALID-INPUT-RECEIVED
84           ACCEPT TOTAL-LOAN-INPUT
85     *      MOVE FUNCTION NUMVAL-C(TOTAL-LOAN-INPUT) TO TEST-INPUT
86           IF FUNCTION TEST-NUMVAL-C(TOTAL-LOAN-INPUT) = 0 THEN
87               SET VALID-INPUT-RECEIVED TO TRUE
88           ELSE
89               SET INVALID-INPUT-RECEIVED TO TRUE
90               DISPLAY "THIS IS NOT A NUMBER/VALID INPUT"
91           END-IF
92
93     END-PERFORM.
94
95 001-VALIDATE-INTEREST-INPUT.
96     INITIALIZE VALID-INPUT.
97     PERFORM WITH TEST AFTER UNTIL VALID-INPUT-RECEIVED
98           ACCEPT INTEREST-RATE-INPUT
99     *      MOVE FUNCTION NUMVAL-C(TOTAL-LOAN-INPUT) TO TEST-INPUT
100           IF FUNCTION TEST-NUMVAL-C(INTEREST-RATE-INPUT) = 0 THEN
101               SET VALID-INPUT-RECEIVED TO TRUE
102           ELSE
103               SET INVALID-INPUT-RECEIVED TO TRUE
104               DISPLAY "THIS IS NOT A NUMBER/VALID INPUT"
105           END-IF
106
107     END-PERFORM.
108
109
110 002-VALIDATE-YEAR-INPUT.
111     INITIALIZE VALID-INPUT.
112     ACCEPT YEAR-INPUT.
113     PERFORM WITH TEST AFTER UNTIL VALID-INPUT-RECEIVED
114           MOVE INTEREST-RATE-INPUT TO INTEREST-RATEP-INPUT
115     *      MOVE FUNCTION NUMVAL-C(TOTAL-LOAN-INPUT) TO TEST-INPUT
116           IF FUNCTION TEST-NUMVAL-C(YEAR-INPUT) = 0 THEN
117               SET VALID-INPUT-RECEIVED TO TRUE
118               DISPLAY "YEAR IS VALID"
119
120           ELSE
121               SET INVALID-INPUT-RECEIVED TO TRUE
122               DISPLAY "THIS IS NOT A NUMBER/VALID INPUT"
123           END-IF
124
125     END-PERFORM.
126 003-CALCULATE-ANNUITY.
127     COMPUTE YEARS = FUNCTION NUMVAL-C(DISPLAY-YEAR-INPUT).
128     PERFORM VARYING COUNTER FROM 1 BY 1 UNTIL COUNTER > YEARS
129           COMPUTE MONTHS = COUNTER * 12
130           COMPUTE MONTHLY-PAYMENT = TOTAL-LOAN * FUNCTION ANNUITY
131 -         ((INTEREST-RATE / 12), MONTHS)
132           MOVE MONTHLY-PAYMENT TO DISPLAY-MONTHLY-PAYMENT
133
134           DISPLAY COUNTER ' ' MONTHS ' '
135 -         DISPLAY-MONTHLY-PAYMENT " USD"
136     END-PERFORM.
137

```