

1. Assembly Language What is the final value in the ACC when the program is RUN?

```
X      DC      3
Y      DC      10
      LOAD     X
      MULT     X
      SUB      Y
      BG       HERE
      SUB      X
HERE   ADD      Y
      END
```

2. Assembly Language What is the final value of C when this program is RUN?

```
A      DC      3
B      DC      21
C      DC      0
TOP    LOAD     C
      ADD      =1
      STORE    C
      LOAD     B
      SUB      A
      STORE    B
      LOAD     B
      SUB      A
      BG       TOP
      END
```

3. Assembly Language What is the final value of X when this program is RUN?

```
X      DC      0
J      DC      4
TOP    LOAD     J
      MULT     J
      ADD      X
      STORE    X
      LOAD     J
      SUB      =1
      STORE    J
      BG       TOP
      END
```

4. Assembly Language What is the final value of C when this program is RUN?

```
A      DC      5
B      DC      100
C      DC      0
TOP    LOAD     C
      ADD      =1
      STORE    C
      LOAD     B
      SUB      A
      SUB      A
      STORE    B
      LOAD     B
      SUB      A
      BG       TOP
      END
```

5. Assembly Language

When the following program is run, it is given the numbers

-3 2 1 -4 5 -9 8 0 7

as data. Find the final values of A and B.

```
A  DC    0
B  DC    0
D  READ  N
   LOAD  N
   BE    E
   BG    C
   LOAD  B
   ADD   N
   STORE B
   BU    D
C  LOAD  A
   ADD   N
   STORE A
   BU    D
E  END
```

6. Assembly Language

When the following program is run, what is the final value in the ACC?

```
TMP    DC    0
A       DC    1
B       DC    3
        LOAD  A
        MULT  =2
        STORE TMP
        LOAD  B
        MULT  = -1
        DIV   TMP
        END
```

7.. Assembly Language

When the following program is run, what are the final values of A, B, and C?

```
A       DC    0
B       DC    15
C       DC    10
T       DC    0
START   LOAD  T
        ADD   =1
        STORE T
        LOAD  B
        ADD   C
        STORE A
        LOAD  B
        ADD   A
        STORE B
        SUB   =100
        BL    START
        END
```

8. Assembly Language

When the following program is run, what is printed?

```
A      DC      5
B      DC      4
C      DC      2
      LOAD     A
      SUB      B
      SUB      C
      BG       ONE
      BL       TWO
ONE     STORE   X
      PRINT   X
      END
TWO     STORE   X
      LOAD     C
      ADD      X
      STORE    C
      PRINT    C
      END
```

SOLUTIONS

1. 6
2. 6
3. 30
4. 10
5. 16, -16
6. -1
7. 100, 190, 10
8. 1