ASSIST/I Version 2.03, Copyright 1984, BDM Software. GRADE RUN FOR:

PROGRAM PROLOGUE PAGE 1

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

2 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

3 \* MICHAEL BEAVER \*

4 \* CS 310, SPRING 2013 \*

5 \* PROGRAM 4 \*

6 \* DUE: APRIL 3, 2013 \*

7 \* \*

8 \* DESCRIPTION: \*

9 \* THIS PROGRAM EXPECTS AS INPUT A DATA FILE WITH AN UNKNOWN NUMBER\*

10 \* OF DATA LINES. THE DATA FOLLOWS A SPECIFIC FORMAT WHERE EACH \*

11 \* GROUP OF FIVE LINES REPRESENTS A PERSON'S DATA: FIRST, MIDDLE, \*

12 \* AND LAST NAMES; STREET ADDRESS; CITY; STATE ABBREVIATION; AND, \*

13 \* ZIP CODE. THE PROGRAM CONVERTS THIS 5-LINE FORMAT INTO A 3-LINE \*

14 \* FORMAT AND PRINTS THE RESULT. EACH 3-LINE DATA GROUP IS \*

15 \* SEPARATED BY A GROUP OF THREE BLANK LINES. THE PROGRAM THEN \*

16 \* TERMINATES AFTER REACHING THE END OF THE DATA FILE. \*

17 \* \*

18 \* INTERNAL SUBROUTINES: \*

19 \* READDATA: MAIN SUBROUTINE CALLS THE FOLLOWING SUBROUTINES TO \*

20 \* READ IN AND FORMAT DATA FOR OUTPUT \*

21 \* MAKENAME: FORMATS THE NAME LINE: LAST, FIRST M. \*

22 \* STRADDR: SIMPLY PRINTS THE ADDRESS LINE FROM THE DATA FILE \*

23 \* CTYSTZIP: FORMATS THE CITY, STATE, AND ZIP CODE: CITY, ST ZIP \*

24 \* FINDBLNK: FINDS THE FIRST BLANK IN A MEMORY LOCATION (POINTED \*

25 \* TO BY REG2)--THE RESULT IS RETURNED IN REG2 \*

26 \* CASCBLNK: CASCADES BLANK CHARACTERS INTO THE OUTLINE MEMORY \*

27 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MAIN PROGRAM PAGE 2

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

29 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

30 \* REGISTER KEY: \*

31 \* REG11: USED TO CALL READDATA SUBROUTINE \*

32 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

000000 33 MBPROG4 START

000000 90EC D00C 0000C 34 STM 14,12,12(13) BEGINNING HOUSEKEEPING

000004 05C0 35 BALR 12,0

000006 36 USING SAVING,12

000006 50D0 C01A 00020 37 SAVING ST 13,SAVEAREA+4

00000A 41D0 C016 0001C 38 LA 13,SAVEAREA

00000E 45B0 C104 0010A 40 BAL 11,READDATA ALL ACTION BEGINS HERE

000012 58D0 C01A 00020 42 L 13,SAVEAREA+4 ENDING HOUSEKEEPING

000016 98EC D00C 0000C 43 LM 14,12,12(13)

00001A 07FE 44 BR 14

00001C 46 SAVEAREA DS 18F

000064 47 REGSAVE DS 16F

0000A4 48 CARD DS CL50

0000D6 40 49 CARRIAGE DC C' '

0000D7 50 OUTLINE DS CL50

READDATA: CONVERT FROM 5-LINE FORMAT TO 3-LINE FORMAT PAGE 3

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

52 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

53 \* REGISTER KEY: \*

54 \* REG11: USED TO CALL OTHER SUBROUTINES AND BRANCH BACK TO MAIN \*

55 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

00010A 900F C05E 00064 56 READDATA STM 0,15,REGSAVE

00010E E000 C09E 0032 000A4 58 READTOP XREAD CARD,50 READ UNTIL EOF

000114 4740 C134 0013A 59 BC B'0100',READEND

000118 45B0 C13A 00140 61 BAL 11,MAKENAME CONVERT FROM 5-LINE TO 3-LINE

00011C 45B0 C1A4 001AA 62 BAL 11,STRADDR

000120 45B0 C1B6 001BC 63 BAL 11,CTYSTZIP

000124 E020 C0D0 0001 000D6 65 XPRNT CARRIAGE,1 3-LINE SEPARATOR (BLANKS)

00012A E020 C0D0 0001 000D6 66 XPRNT CARRIAGE,1

000130 E020 C0D0 0001 000D6 67 XPRNT CARRIAGE,1

000136 47F0 C108 0010E 69 B READTOP

00013A 980F C05E 00064 71 READEND LM 0,15,REGSAVE

00013E 07FB 72 BR 11

FORMAT NAME: LAST, FIRST M. PAGE 4

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

74 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

75 \* REGISTER KEY: \*

76 \* REG2: POINTER TO CARD MEMORY AREA TO FIND INITIAL BLANKS; \*

77 \* STEP SIZE (1) FOR LOOPS \*

78 \* REG3: TERMINAL VALUE (BLANK LOCATION) FOR LOOPS \*

79 \* REG4: POINTER TO OUTLINE MEMORY AREA \*

80 \* REG6: POINTER TO THE END OF THE FIRST NAME \*

81 \* REG7: POINTER TO THE MIDDLE NAME \*

82 \* REG8: POINTER TO THE BEGINNING OF THE LAST NAME; POINTER \*

83 \* TO MEMORY TO BE COPIED INTO OUTLINE MEMORY (VIA LOOPS) \*

84 \* REG10: USED TO CALL OTHER SUBROUTINES \*

85 \* REG11: USED TO RETURN TO CALLING SUBROUTINE \*

86 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

000140 45A0 C232 00238 87 MAKENAME BAL 10,CASCBLNK

000144 4120 C09E 000A4 89 LA 2,CARD FIND BLANK AFTER FIRST NAME

000148 45A0 C218 0021E 90 BAL 10,FINDBLNK

00014C 1862 91 LR 6,2 FIRST NAME ENDS AT REG6 LOC

00014E 4172 0001 00001 93 LA 7,1(2) MIDDLE INITIAL AT REG7 LOC

000152 1827 94 LR 2,7 FIND BLANK AFTER MIDDLE NAME

000154 45A0 C218 0021E 95 BAL 10,FINDBLNK

000158 4182 0001 00001 97 LA 8,1(2) LAST NAME STARTS AT REG8 LOC

00015C 1828 98 LR 2,8 FIND BLANK ENDING LAST NAME

00015E 45A0 C218 0021E 99 BAL 10,FINDBLNK

000162 1832 101 LR 3,2 TERMINAL BLANK IN FULL NAME

000164 0630 102 BCTR 3,0 LAST CHARACTER IN FULL NAME

000166 4120 0001 00001 103 LA 2,1

00016A 4140 C0D1 000D7 104 LA 4,OUTLINE

00016E D200 4000 8000 00000 00000 105 LASTNAME MVC 0(1,4),0(8) COPY LAST NAME TO OUTLINE

000174 4144 0001 00001 106 LA 4,1(4)

000178 8782 C168 0016E 107 BXLE 8,2,LASTNAME

00017C 926B 4000 00000 108 MVI 0(4),C','

FORMAT NAME: LAST, FIRST M. PAGE 5

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

000180 1836 110 LR 3,6

000182 4144 0002 00002 111 LA 4,2(4) LOCATION TO COPY TO IN OUTLINE

000186 4180 C09E 000A4 112 LA 8,CARD

00018A D200 4000 8000 00000 00000 113 FRSTNAME MVC 0(1,4),0(8) COPY FIRST NAME TO OUTLINE

000190 4144 0001 00001 114 LA 4,1(4)

000194 8782 C184 0018A 115 BXLE 8,2,FRSTNAME

000198 D200 4000 7000 00000 00000 117 MIDINIT MVC 0(1,4),0(7) COPY MIDDLE INITIAL TO OUTLINE

00019E 924B 4001 00001 118 MVI 1(4),C'.'

0001A2 E020 C0D0 0033 000D6 120 XPRNT CARRIAGE,51

0001A8 07FB 121 BR 11

FORMAT STREET ADDRESS: JUST COPY STREET ADDRESS PAGE 6

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

123 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

124 \* REGISTER KEY: \*

125 \* REG10: USED TO CALL OTHER SUBROUTINES \*

126 \* REG11: USED TO RETURN TO CALLING SUBROUTINE \*

127 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

0001AA 45A0 C232 00238 128 STRADDR BAL 10,CASCBLNK

0001AE E000 C0D1 0032 000D7 130 XREAD OUTLINE,50

0001B4 E020 C0D0 0033 000D6 131 XPRNT CARRIAGE,51

0001BA 07FB 133 BR 11

FORMAT CITY, STATE, AND ZIP: CITY, ST ZIP PAGE 7

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

135 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

136 \* REGISTER KEY: \*

137 \* REG2: STEP SIZE FOR LOOPS \*

138 \* REG3: TERMINAL VALUE FOR LOOPS \*

139 \* REG4: POINTER TO CARD MEMORY AREA \*

140 \* REG5: POINTER TO OUTLINE MEMORY AREA \*

141 \* REG10: USED TO CALL OTHER SUBROUTINES \*

142 \* REG11: USED TO RETURN TO CALLING SUBROUTINE \*

143 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

0001BC 45A0 C232 00238 144 CTYSTZIP BAL 10,CASCBLNK

0001C0 E000 C09E 0032 000A4 146 XREAD CARD,50 GET CITY DATA LINE

0001C6 4140 C0D0 000D6 147 LA 4,CARD+50 START AT THE END OF THE LINE

0001CA 5820 C242 00248 148 L 2,=F'-1'

0001CE 4130 C09D 000A3 149 LA 3,CARD-1

0001D2 9540 4000 00000 150 FINDCITY CLI 0(4),C' ' FIND WHERE THE CITY NAME ENDS

0001D6 4720 C1D8 001DE 151 BC B'0010',NOTBLANK

0001DA 8642 C1CC 001D2 152 BXH 4,2,FINDCITY

0001DE 4120 0001 00001 154 NOTBLANK LA 2,1

0001E2 1834 155 LR 3,4 REASSIGN FOR NEW TERMINAL LOC

0001E4 4140 C09E 000A4 156 LA 4,CARD

0001E8 4150 C0D1 000D7 157 LA 5,OUTLINE

0001EC D200 5000 4000 00000 00000 158 COPYCITY MVC 0(1,5),0(4) COPY CITY FROM CARD TO OUTLINE

0001F2 4155 0001 00001 159 LA 5,1(5)

0001F6 8742 C1E6 001EC 160 BXLE 4,2,COPYCITY

0001FA E000 C09E 0032 000A4 162 XREAD CARD,50 GET STATE DATA LINE

000200 926B 5000 00000 163 MVI 0(5),C','

000204 D201 5002 C09E 00002 000A4 164 COPYST MVC 2(2,5),CARD COPY STATE INITIALS TO OUTLINE

00020A E000 C09E 0032 000A4 166 XREAD CARD,50 GET ZIP CODE DATA LINE

000210 D204 5006 C09E 00006 000A4 167 COPYZIP MVC 6(5,5),CARD COPY ZIP CODE TO OUTLINE

000216 E020 C0D0 0033 000D6 169 XPRNT CARRIAGE,51

00021C 07FB 170 BR 11

FIND BLANK PAGE 8

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

172 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

173 \* REGISTER KEY: \*

174 \* REG2: POINTER TO LOCATION IN WHICH TO FIND FIRST BLANK; RETURN\*

175 \* POINTER LOCATION TO BLANK \*

176 \* REG10: USED TO RETURN TO CALLING SUBROUTINE \*

177 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

00021E 9031 C05E 00064 178 FINDBLNK STM 3,1,REGSAVE

000222 9540 2000 00000 180 SRCHTOP CLI 0(2),C' ' FIND THE FIRST BLANK

000226 4780 C22C 00232 181 BC B'1000',FOUND

00022A 4122 0001 00001 182 LA 2,1(2)

00022E 47F0 C21C 00222 183 B SRCHTOP

000232 9831 C05E 00064 185 FOUND LM 3,1,REGSAVE POINTER RETURNED IN REG2

000236 07FA 186 BR 10

CASCADE BLANKS INTO OUTLINE PAGE 9

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT

188 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

189 \* REGISTER KEY: \*

190 \* REG10: USED TO RETURN TO CALLING SUBROUTINE \*

191 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

000238 9240 C0D1 000D7 192 CASCBLNK MVI OUTLINE,C' '

00023C D230 C0D2 C0D1 000D8 000D7 193 MVC OUTLINE+1(49),OUTLINE

000242 07FA 194 BR 10

195 END MBPROG4

000248 FFFFFFFF =F'-1'

\*\*\* 0 STATEMENTS FLAGGED - 0 WARNINGS, 0 ERRORS

\*\*\* PROGRAM EXECUTION BEGINNING -

ANY OUTPUT BEFORE EXECUTION COMPLETE MESSAGE IS PRODUCED BY USER PROGRAM \*\*\*

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\*\*\* EXECUTION COMPLETED \*\*\*