

System Programming And Operating System D M Dhamdhere Pdf

System Software - An Introduction to Systems Programming, 3rd ed., Leland L. Beck

Chapter 2 - Assemblers

2.1 Basic Assembler Functions

 To show different assembler features, Fig 2.1 (Page 45) shows an assembler language program for the basic version of SIC.

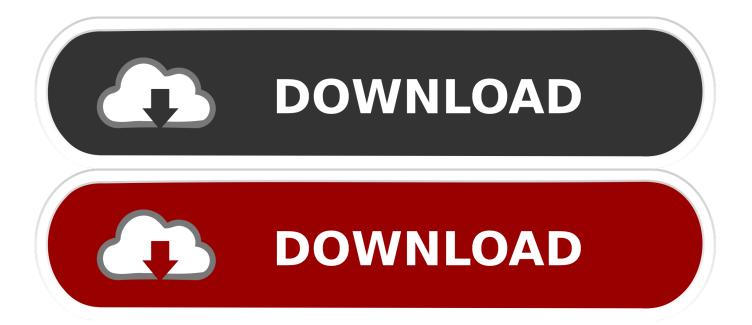
Line	Sour	Source statement			
5	COPY	START	1000	COPY FILE FROM INPUT TO OUTPON	
10	FIRST	STL	RETADR	SAVE RETURN ADDRESS	
15	CLOOP	JSUB	ROREC	READ INPUT RECORD	
20	SALE CALMER	LDA	LENGTH	TEST FOR BOF (LENGTH = 0)	
25		COMP	ZERO		
30		JEO	ENDFIL	EXIT IF BOF FOUND	
35		JSUB	WRREC	WRITE OUTPUT RECORD	
40	1	J	CLOOP	LOOP	
45	ENDFIL	LDA	EOF	INSERT END OF FILE MARKER	
50		STA	BUFFER		
55		LDA	THREE	SET LENGTH = 3	
60		STA	LENGTH		
65		JSUB	WEREC	WRITE BOF	
70		LDL	RETADR	GET RETURN ADDRESS	
75		RSUB		RETURN TO CALLER	
80	EOF	BYTE	C'EOF'		
85	THREE	WORD	3		
90	ZERO	WORD	0		
95	RETADR	RESW	1		
100	LENGTH	RESW	_1	LENGTH OF RECORD	
105	BUFFER	RESB	4096	4096-BYTE BUFFER AREA	
110					
115	17	SUBROUT	INE TO READ RE	CORD INTO BUFFER	
120	1. 2				
125	RDREC	LDX	ZERO	CLEAR LOOP COUNTER	
130		LDA	ZERO	CLEAR A TO ZERO	
135	RLOOP	TD	INPUT	TEST INPUT DEVICE	
140	P	JEQ	RLOOP	LOOP UNTIL READY	
145	LU	FD	INPUT	READ CHARACTER INTO REGISTER	
150		COMP	ZERO	TEST FOR END OF RECORD (X'00'	
155		JEQ	EXIT	EXIT LOOP IF EOR	
160		STCH	BUFFER, X	STORE CHARACTER IN BUFFER	
165		TIX	MAXLEN	LOOP UNLESS MAX LENGTH	
170		JLT	RLCOP	HAS BEEN REACHED	
175	EXIT	STX	LENGTH	SAVE RECORD LENGTH	
180		RSUB	W	RETURN TO CALLER	
185	INPOT	BYTE	X'F1' C	CODE FOR INPUT DEVICE	
190	MAXLEN	WORD	4096		
195	4.0				
200		SUBROUTINE TO WRITE RECORD FROM BUFFER			
205					
210	WRREC	LDX	ZERO	CLEAR LOOP COUNTER	
215	WLOOP	TD	OUTPUT	TEST OUTPUT DEVICE	
220		JEQ	WLOOP	LOOP UNTIL READY	
225		LDCH	BUFFER, X	GET CHARACTER FROM BUFFER	
230		WD	OUTPUT	WRITE CHARACTER	
235		TIX	LENGTH	LOOP UNTIL ALL CHARACTERS	
240		JLT	WLOOP	HAVE BEEN WRITTEN	
		RSUB		RETURN TO CALLER	
245					
245 250	OUTPUT	BYTE	X'05'	CODE FOR OUTPUT DEVICE	

Figure 2.1 Example of a SIC assembler language program.

Written by WWF

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Chapter 12, which is on distributed operating systems, motivates the ... DM DHAMDHERE Contents vii Preface to the Second Revised Edition Preface to xii posium on Advances in Geographical Information Systems, pp. 107–112. McLean, Virginia (2002) 2. Khedker, U., Dhamdhere, D.M.: A generalized theory of bit vector data flow analysis. ACM Trans. Programming Languages Syst.

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