

Arab Academy for Science and Technology

Faculty of Engineering



الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري

Arab Academy for Science, Technology & Maritime Transport

Linker-Loader Report

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1.0 About Project

The project was generated by only one student using Python programming language for its flexibility and wide variety of functions, what makes it the best choice to work on such project.

The Linker-Loader project supports all kind of records. It helps the user by simulating what happens in a sic machine memory while loading and linking by showing a detailed GUI that represents SIC machine memory.

Options:

1. Program Alerts user if he entered invalid address
2. User input any file he want to load.
3. User input any starting address he wants.
4. User can choose to load SIC or SIC/XE program
5. The loading-linking operation is presented in a well-organized GUI that represents SIC machine memory

Sample Input SIC/XE

```
HPROGA000000000000063
DLISTA00000040END00000054
RLISTB0ENDB00LISTC0ENDC00
T0000200A03201D77100004050014
T0000540F000014FFFFFF600003F000014FFFC0
M00002405+LISTB
M00005406+LISTC
M00005706+ENDC
M00005706-LISTC
M00005A06+ENDC
M00005A06-LISTC
M00005A06+PROGA
M00005D06-ENDB
M00005D06+LISTB
M00006006+LISTB
M00006006-PROGA
E000000
HPROGB0000000000007F
DLISTB00000060ENDB00000070
RLISTA0END00LISTC0ENDC00
T0000360B0310000077202705100000
T0000700F000000FFFFFF6FFFFFFF0000060
M00003705+LISTA
M00003E05+ENDA
M00003E05-LISTA
M00007006+ENDA
M00007006-LISTA
M00007006+LISTC
M00007306+ENDC
M00007306-LISTC
M00007606+ENDC
M00007606-LISTC
M00007606+LISTA
M00007906+ENDA
M00007906-LISTA
M00007C06+PROGB
M00007C06-LISTA
E000000
```

Sample Input SIC

HCOPYXX00100000107A

T0010001E1410334820390010362810303010154820613C100300102A0C103900102D

T00101E150C10364820610810334C0000454F46000003000000

T0020391E041030001030E0205D30203FD8205D2810303020575490392C205E38203F

T0020571C1010364C0000F1001000041030E02079302064509039DC20792C1036

T002073073820644C000005

E001000

Ext_Sym_Table.txt

+-----+	+-----+	+-----+	+-----+	+-----+
CSEC	VAR	ADDRESS	LENGTH	
+=====+	+=====+	+=====+	+=====+	+=====+
PROGA		004000	000063	
+-----+	+-----+	+-----+	+-----+	+-----+
	LISTA	004040		
+-----+	+-----+	+-----+	+-----+	+-----+
	ENDA	004054		
+-----+	+-----+	+-----+	+-----+	+-----+
PROGB		004063	00007F	
+-----+	+-----+	+-----+	+-----+	+-----+
	LISTB	0040C3		
+-----+	+-----+	+-----+	+-----+	+-----+
	ENDB	0040D3		
+-----+	+-----+	+-----+	+-----+	+-----+
PROGC		0040E2	000051	
+-----+	+-----+	+-----+	+-----+	+-----+
	LISTC	004112		
+-----+	+-----+	+-----+	+-----+	+-----+
	ENDC	004124		
+-----+	+-----+	+-----+	+-----+	+-----+

Loading SIC

[illegible]

Loading SIC/XE

[illegible]

Program Interaction

```
Welcome to Linker Loader  
Please add file path: sicxe.txt  
  
For SIC press: 1 / For SIC/XE press: 2  
2  
Please Enter Start Address: 004000  
PandasGUI INFO - pandasgui.gui - Opening PandasGUI
```