

BAB VII

KESIMPULAN

Dari uraian pada tugas akhir ini dapat ditarik beberapa kesimpulan sebagai berikut :

1. Yang sangat berperan pada papan peraga elektronik ini adalah perangkat lunak, karena perangkat keras yang menggunakan mikroprosesor tanpa disertai dengan perangkat lunak tidak berarti apa-apa.
2. Papan peraga elektronik ini dapat menampilkan berbagai karakter, karena pada dasarnya karakter-karakter dibentuk dari susunan titik-titik.
3. Daya yang diperlukan untuk papan peraga elektronik ini relatif kecil karena LED pada papan peraga ini menyala secara berurutan dan bergantian.
4. Peraga pesan ini dapat disesuaikan dengan kebutuhan promosi suatu perusahaan atau instansi, karena lewat papan peraga ini dapat disampaikan berbagai macam informasi.
5. Papan peraga yang dibuat sangat dibatasi oleh perluasan kolom, semakin banyak jumlah kolomnya, daya yang mengalir ke LED semakin kecil sehingga nyala LED tersebut akan semakin redup.
6. Untuk membuat suatu papan peraga LED yang besar sekali dimensinya, dapat dilakukan dengan mengganti transistor

pada interface dengan transistor yang penguatnya lebih besar agar LED yang menyala lebih terang.

7. Untuk menampilkan pesan atau gambar pada papan peraga selalu digunakan routine peraga, karena routine-routine ini merupakan dasar dari semua bentuk program tampilan ke papan peraga.
8. Pada instruksi delay selalu digunakan waktu scanning, karena apabila waktu scanning terlalu cepat akan menyebabkan hasil tampilan pada papan peraga tidak dapat diikuti mata, sebaliknya apabila waktu scanning terlalu lambat dapat menyebabkan hasil tampilan berupa kolom yang menyala secara berurutan.
9. Untuk menjalankan alat ini selalu didahului dengan memanggil alamat program yang akan ditampilkan, kemudian menekan tombol GO, maka hasilnya segera tampak dipapan peraga.

DAFTAR PUSTAKA

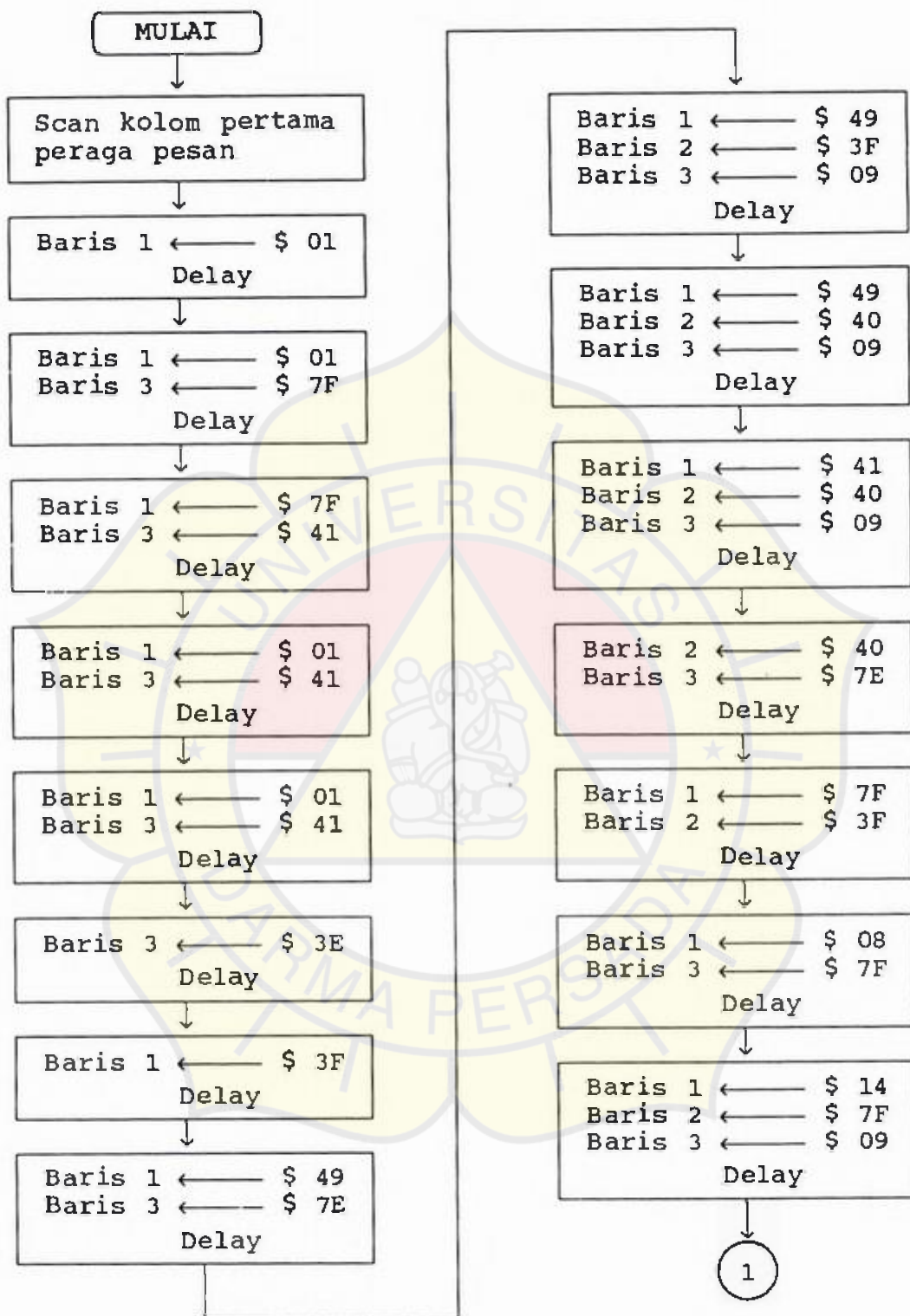
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LAMPIRAN A

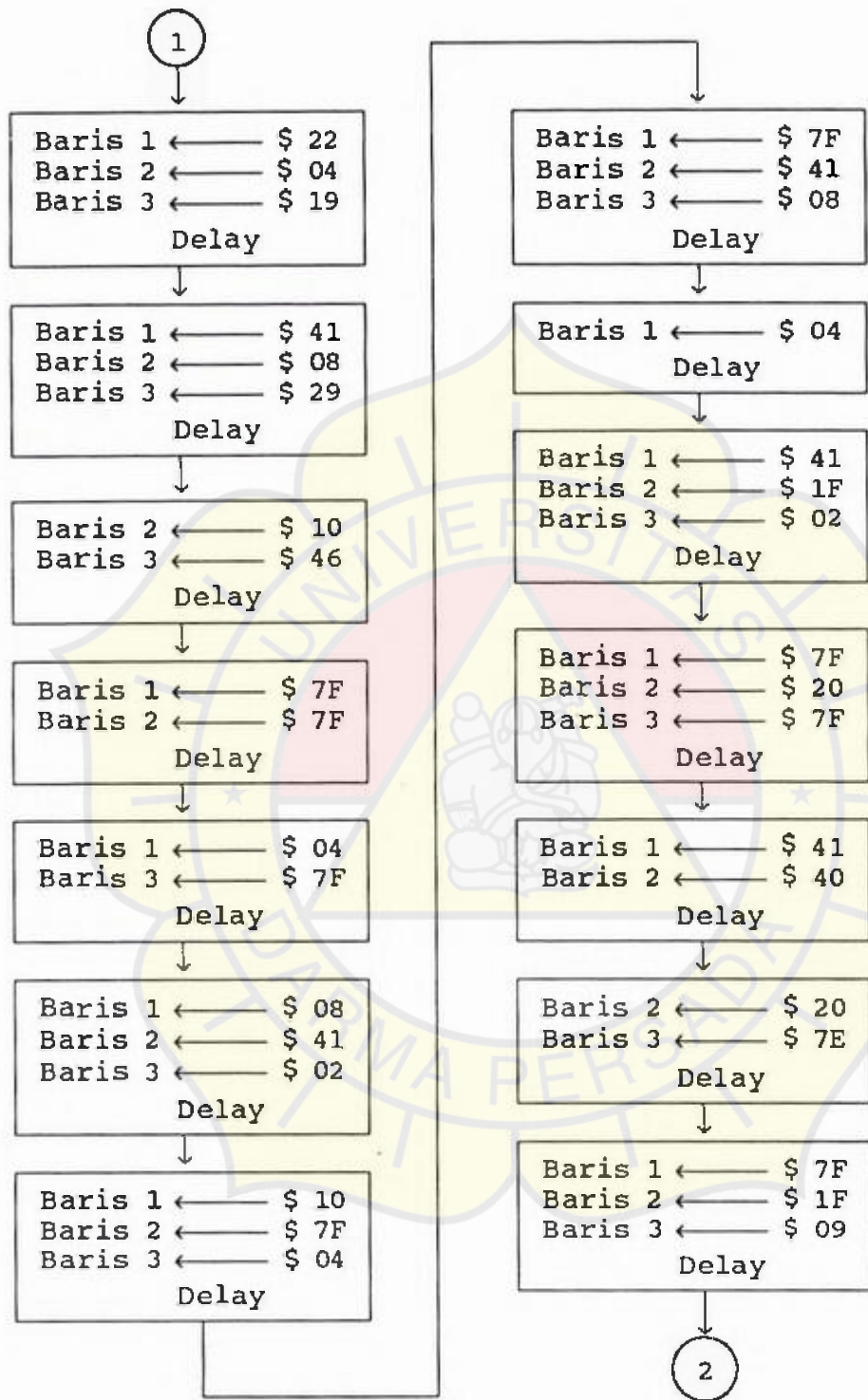
DIAGRAM ALIR

PERAGA PESAN & GAMBAR ROBOT

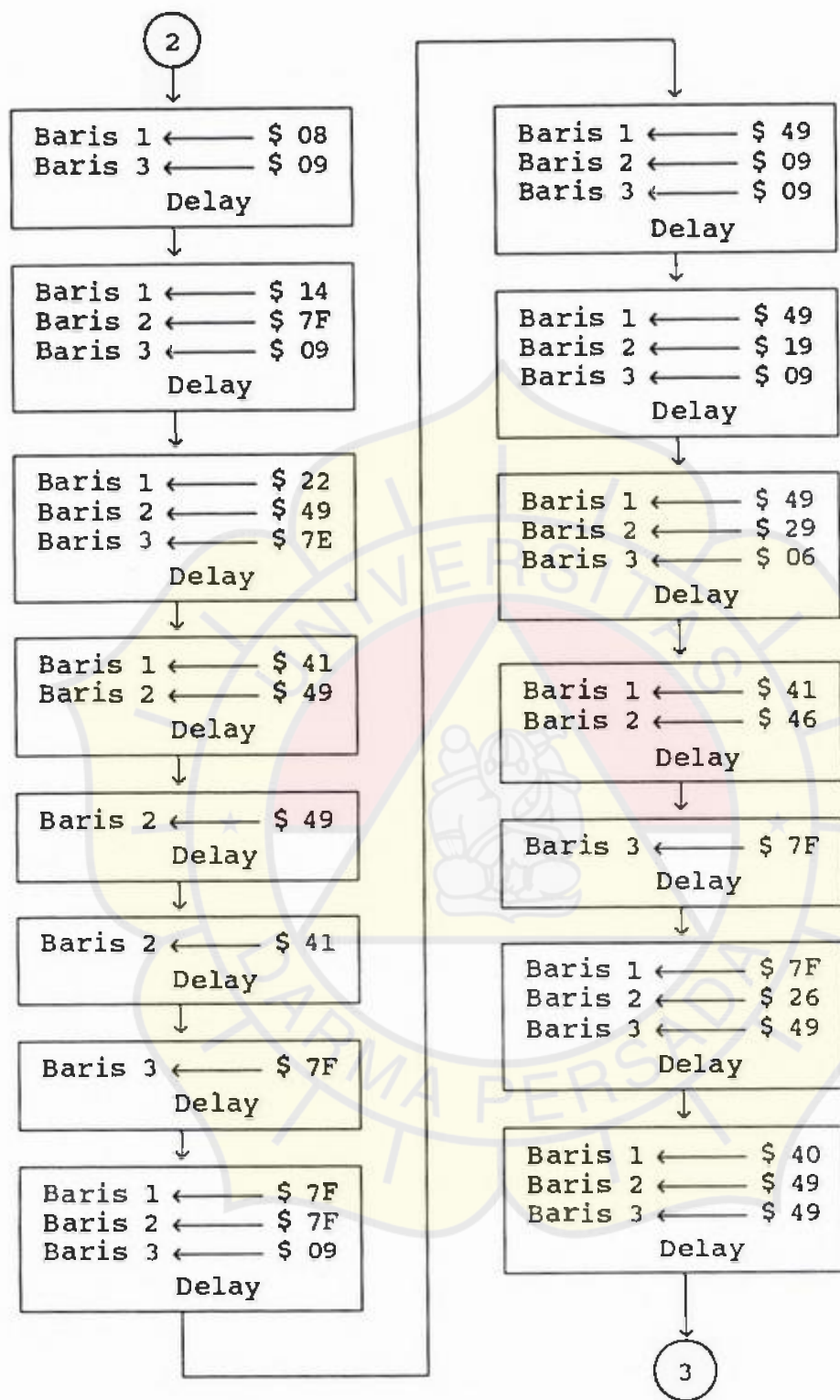




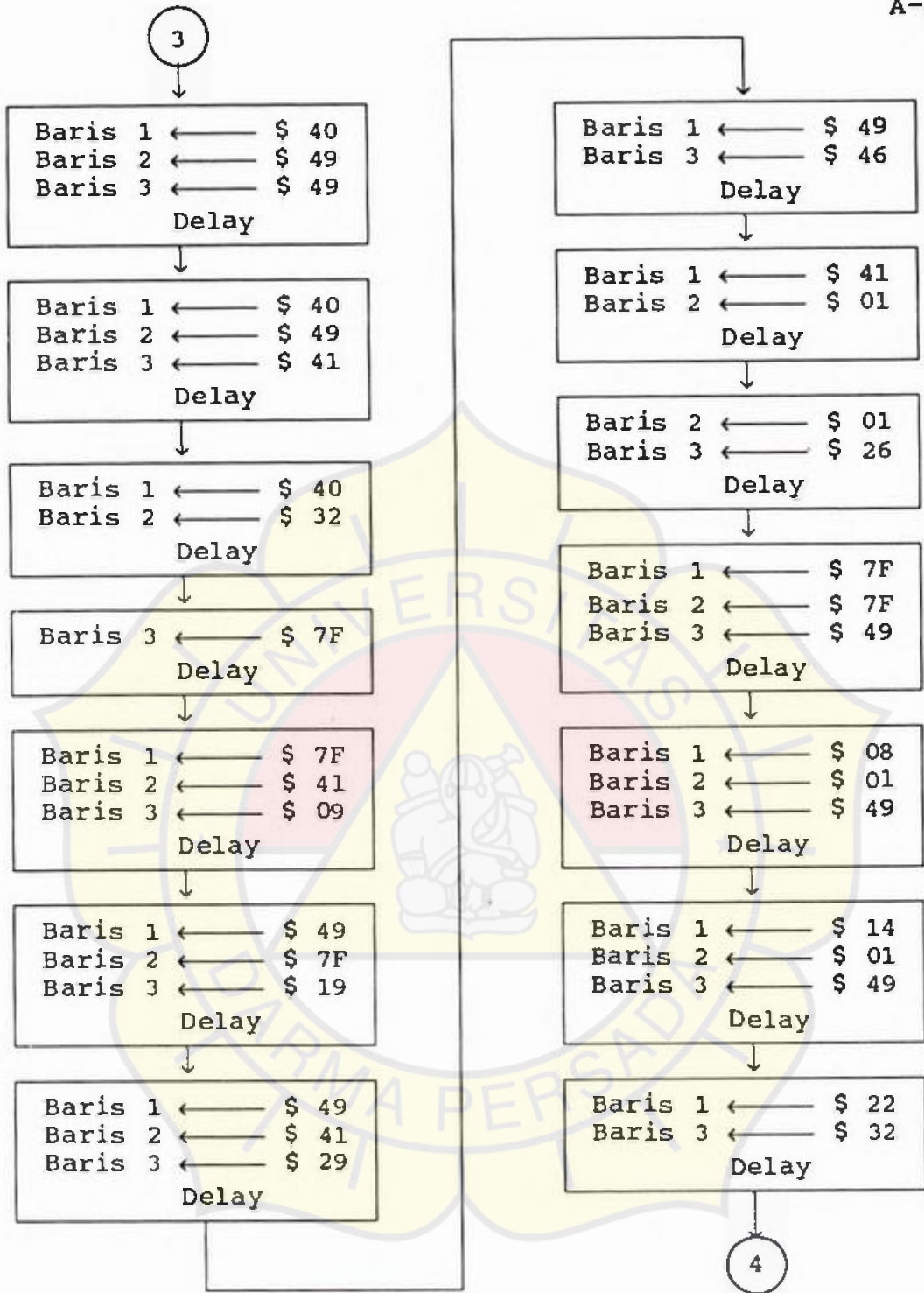
Gambar Diagram Alir Peraga Pesan (a)



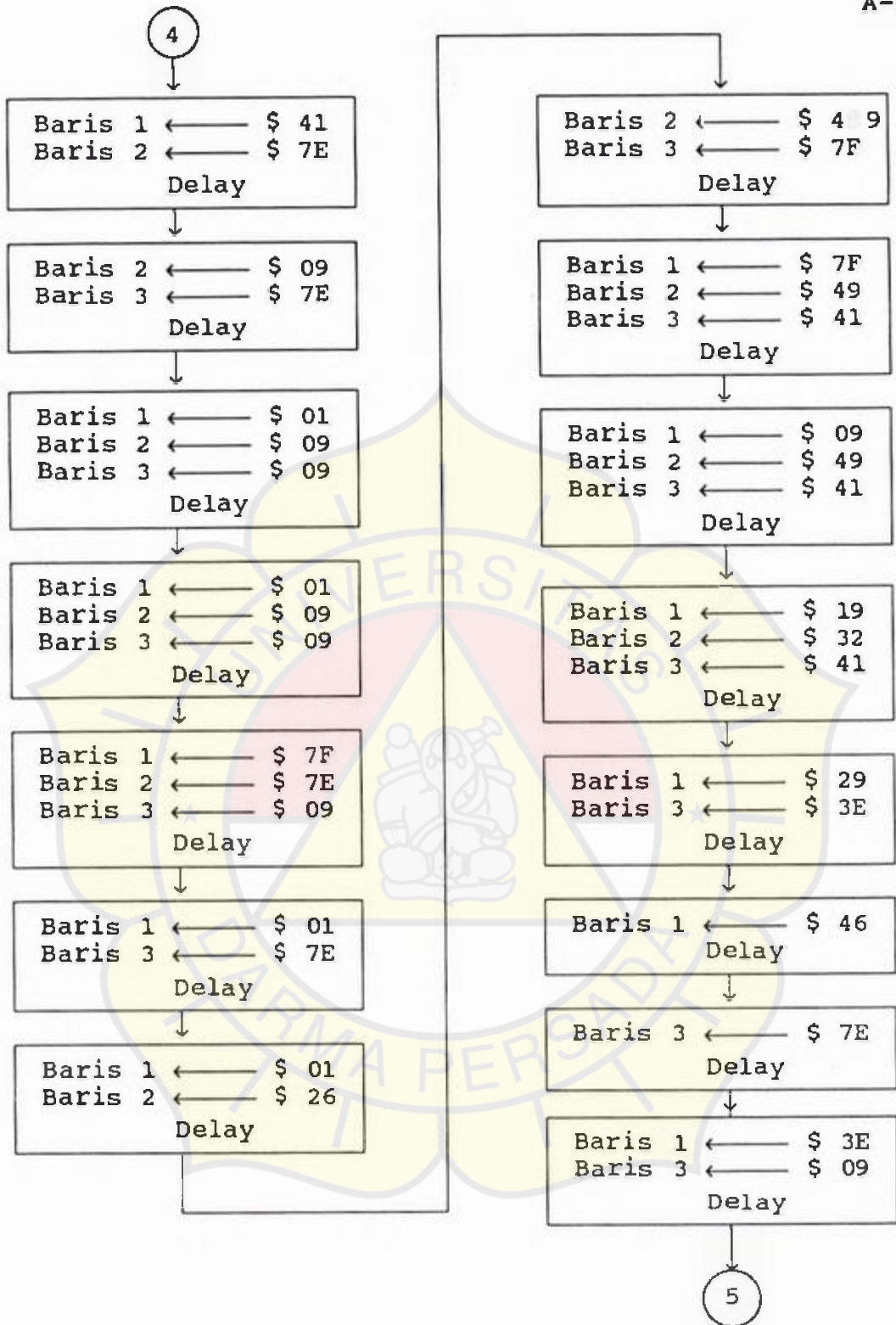
Gambar Diagram Alir Peraga Pesan (b)



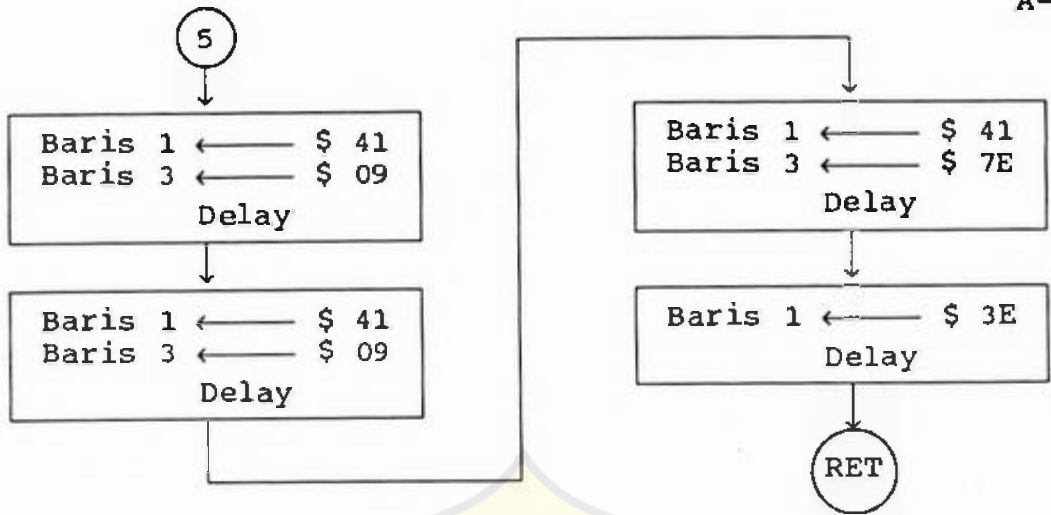
Gambar Diagram Alir Peraga Pesan (c)



Gambar Diagram Alir Peraga Pesan (d)

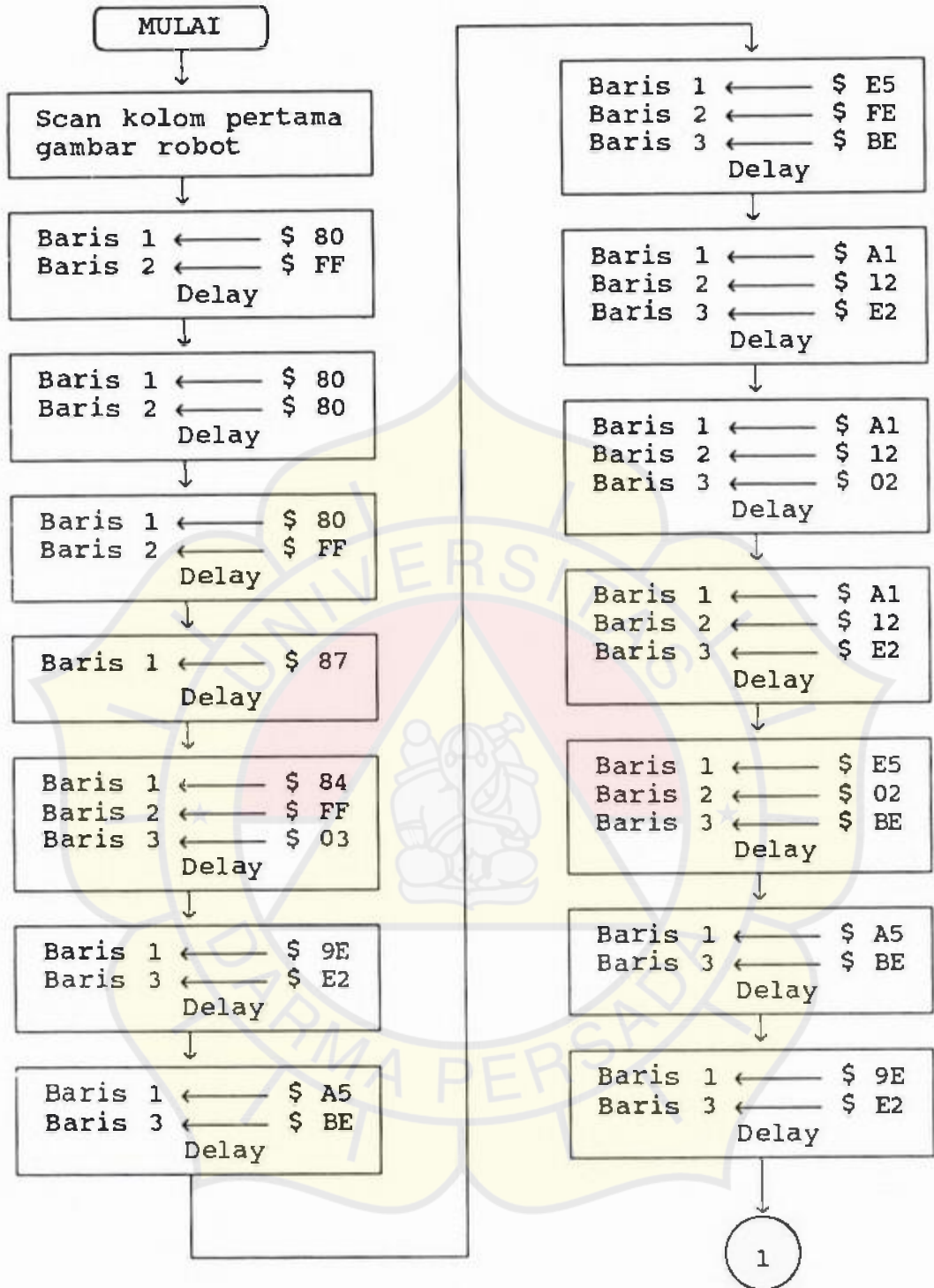


Gambar Diagram Alir Peraga Pesan (e)

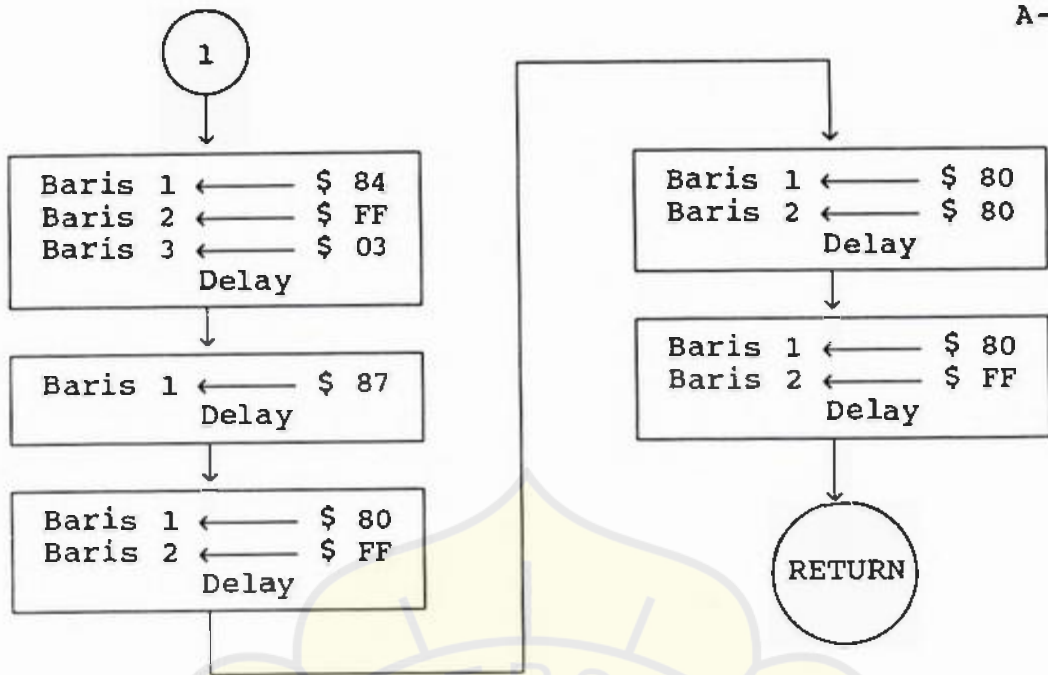


Gambar Diagram Alir Peraga Pesan (f)

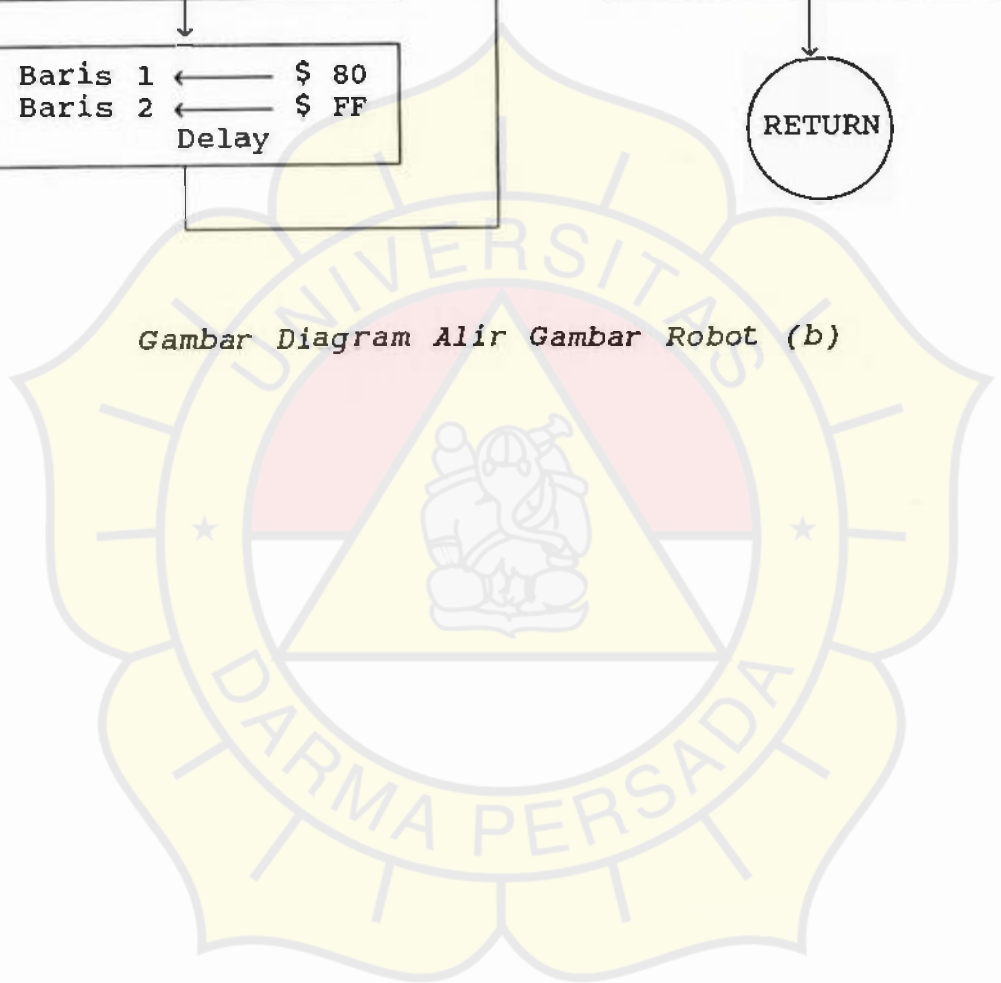




Gambar Diagram Alir Gambar Robot (a)



Gambar Diagram Alir Gambar Robot (b)



LAMPIRAN B

PERANGKAT LUNAK

SISTEM MIKROPROSESOR Z-80



PROGRAM DELAY

<u>Alamat</u>	<u>Kode Heksa</u>	<u>Label</u>	<u>Mnemonic</u>
2000	3E0F	INIO:	LD A,0FH
2002	D382		OUT (82H),A
2004	D383		OUT (83H),A
2006	D3C2		OUT (0C2H),A
2008	3EFF		LD A,OFFH
200A	D3C3		OUT (0C3H),A
200C	3E80		LD A,80H
200E	D3C3		OUT (0C3H),A
2010	C9		RET
2011	3E00	SCREEN:	LD A,00H
2013	D380		OUT (80H),A
2015	D381		OUT (81H),A
2017	D3C0		OUT (0C0H),A
2019	C9		RET
201A	0635	TIME:	LD B,35H
201C	10FE	ALPHA:	DJNZ ALPHA
201E	C9		RET
201F	CD1A20	DELAY:	CALL TIME
2022	CD1120		CALL SCREEN
2025	14		INC D
2026	ED51		OUT (C),D
2028	C9		RET

PROGRAM PERAGA PESAN

2029	0601		LD D,01H
202B	CD0020		CALL INIO
202E	0EC1		LD C,0C1H
2030	ED51		OUT (C),D
2032	3E01		LD A,01H
2034	D380		OUT (80H),A
2036	CD1F20		CALL DELAY
2039	3E01		LD A,01H

203B	D380	OUT (80H),A
203D	3E7F	LD A,7FH
203F	D3C0	OUT (0C0H),A
2041	CD1F20	CALL DELAY
2044	3E7F	LD A,7FH
2046	D380	OUT (80H),A
2048	3E41	LD A,41H
204A	D3C0	OUT (0C0H),A
204C	CD1F20	CALL DELAY
204F	3E01	LD A,01H
2051	D380	OUT (80H),A
2053	3E41	LD A,41H
2055	D3C0	OUT (0C0H),A
2057	CD1F20	CALL DELAY
205A	3E01	LD A,01H
205C	D380	OUT (80H),A
205E	3E41	LD A,41H
2060	D3C0	OUT (0C0H),A
2062	CD1F20	CALL DELAY
2065	3E3E	LD A,3EH
2067	D3C0	OUT (0C0H),A
2069	CD1F20	CALL DELAY
206C	3E7F	LD A,7FH
206E	D380	OUT (80H),A
2070	CD1F20	CALL DELAY
2073	3E49	LD A,49H
2075	D380	OUT (80H),A
2077	3E7E	LD A,7EH
2079	D3C0	OUT (0C0H),A
207B	CD1F20	CALL DELAY
207E	3E49	LD A,49H
2080	D380	OUT (80H),A
2082	3E3F	LD A,3FH
2084	D381	OUT (81H),A
2086	3E09	LD A,09H
2088	D3C0	OUT (0C0H),A
208A	CD1F20	CALL DELAY
208D	3E49	LD A,49H

208F	D380	OUT (80H),A
2091	3E40	LD A,40H
2093	D381	OUT (81H),A
2095	3E09	LD A,09H
2097	D3C0	OUT (0C0H),A
2099	CD1F20	CALL DELAY
209C	3E41	LD A,41H
209E	D380	OUT (80H),A
20A0	3E40	LD A,40H
20A2	D381	OUT (81H),A
20A4	3E09	LD A,09H
20A6	D3C0	OUT (0C0H),A
20A8	CD1F20	CALL DELAY
20AB	3E40	LD A,40H
20AD	D381	OUT (81H),A
20AF	3E7E	LD A,7EH
20B1	D3C0	OUT (0C0H),A
20B3	CD1F20	CALL DELAY
20B6	3E7F	LD A,7FH
20B8	D380	OUT (80H),A
20BA	3E3F	LD A,3FH
20BC	D381	OUT (81H),A
20BE	CD1F20	CALL DELAY
20C1	3E08	LD A,08H
20C3	D380	OUT (80H),A
20C5	3E7F	LD A,7FH
20C7	D3C0	OUT (0C0H),A
20C9	CD1F20	CALL DELAY
20CC	3E14	LD A,14H
20CE	D380	OUT (80H),A
20D0	3E7F	LD A,7FH
20D2	D381	OUT (81H),A
20D4	3E09	LD A,09H
20D6	D3C0	OUT (0C0H),A
20D8	CD1F20	CALL DELAY
20DB	3E22	LD A,22H
20DD	D380	OUT (80H),A
20DF	3E04	LD A,04H

20E1	D381	OUT (81H),A
20E3	3E19	LD A,19H
20E5	D3C0	OUT (0C0H),A
20E7	CD1F20	CALL DELAY
20EA	3E41	LD A,41H
20EC	D380	OUT (80H),A
20EE	3E08	LD A,08H
20F0	D381	OUT (81H),A
20F2	3E29	LD A,29H
20F4	D3C0	OUT (0C0H),A
20F6	CD1F20	CALL DELAY
20F9	3E10	LD A,10H
20FB	D381	OUT (81H),A
20FD	3E46	LD A,46H
20FF	D3C0	OUT (0C0H),A
2101	CD1F20	CALL DELAY
2104	3E7F	LD A,7FH
2106	D380	OUT (80H),A
2108	3E7F	LD A,7FH
210A	D381	OUT (81H),A
210C	CD1F20	CALL DELAY
210F	3E04	LD A,04H
2111	D380	OUT (80H),A
2113	3E7F	LD A,7FH
2115	D3C0	OUT (0C0H),A
2117	CD1F20	CALL DELAY
211A	3E08	LD A,08H
211C	D380	OUT (80H),A
211E	3E41	LD A,41H
2120	D381	OUT (81H),A
2122	3E02	LD A,02H
2124	D3C0	OUT (0C0H),A
2126	CD1F20	CALL DELAY
2129	3E10	LD A,10H
212B	D380	OUT (80H),A
212D	3E7F	LD A,7FH
212F	D381	OUT (81H),A
2131	3E04	LD A,04H

2133	D3C0	OUT (0C0H),A
2135	CD1F20	CALL DELAY
2138	3E7F	LD A,7FH
213A	D380	OUT (80H),A
213C	3E41	LD A,41H
213E	D381	OUT (81H),A
2140	3E08	LD A,08H
2142	D3C0	OUT (0C0H),A
2144	CD1F20	CALL DELAY
2147	3E04	LD A,04H
2149	D3C0	OUT (0C0H),A
214B	CD1F20	CALL DELAY
214E	3E41	LD A,41H
2150	D380	OUT (80H),A
2152	3E1F	LD A,1FH
2154	D381	OUT (81H),A
2156	3E02	LD A,02H
2158	D3C0	OUT (0C0H),A
215A	CD1F20	CALL DELAY
215D	3E7F	LD A,7FH
215F	D380	OUT (80H),A
2161	3E20	LD A,20H
2163	D381	OUT (81H),A
2165	3E7F	LD A,7FH
2167	D3C0	OUT (0C0H),A
2169	CD1F20	CALL DELAY
216C	3E41	LD A,41H
216E	D380	OUT (80H),A
2170	3E40	LD A,40H
2172	D381	OUT (81H),A
2174	CD1F20	CALL DELAY
2177	3E20	LD A,20H
2179	D381	OUT (81H),A
217B	3E7E	LD A,7EH
217D	D3C0	OUT (0C0H),A
217F	CD1F20	CALL DELAY
2182	3E7F	LD A,7FH
2184	D380	OUT (80H),A

2186	3E1F	LD A,1FH
2188	D381	OUT (81H),A
218A	3E09	LD A,09H
218C	D3C0	OUT (0C0H),A
218E	CD1F20	CALL DELAY
2191	3E08	LD A,08H
2193	D380	OUT (80H),A
2195	3E09	LD A,09H
2197	D3C0	OUT (0C0H),A
2199	CD1F20	CALL DELAY
219C	3E14	LD A,14H
219E	D380	OUT (80H),A
21A0	3E7F	LD A,7FH
21A2	D381	OUT (81H),A
21A4	3E09	LD A,09H
21A6	D3C0	OUT (0C0H),A
21A8	CD1F20	CALL DELAY
21AB	3E22	LD A,22H
21AD	D380	OUT (80H),A
21AF	3E49	LD A,49H
21B1	D381	OUT (81H),A
21B3	3E7E	LD A,7EH
21B5	D3C0	OUT (0C0H),A
21B7	CD1F20	CALL DELAY
21BA	3E41	LD A,41H
21BC	D380	OUT (80H),A
21BE	3E49	LD A,49H
21C0	D381	OUT (81H),A
21C2	CD1F20	CALL DELAY
21C5	3E49	LD A,49H
21C7	D381	OUT (81H),A
21C9	CD1F20	CALL DELAY
21CC	3E41	LD A,41H
21CE	D381	OUT (81H),A
21D0	CD1F20	CALL DELAY
21D3	3E7F	LD A,7FH
21D5	D3C0	OUT (0C0H),A
21D7	CD1F20	CALL DELAY

21DA	3E7F	LD	A,7FH
21DC	D380	OUT	(80H),A
21DE	3E7F	LD	A,7FH
21E0	D381	OUT	(81H),A
21E2	3E09	LD	A,09H
21E4	D3C0	OUT	(0C0H),A
21E6	CD1F20	CALL	DELAY
21E9	3E49	OUT	(80H),A
21ED	3E09	LD	A,09H
21EF	D381	OUT	(81H),A
21F1	3E09	LD	A,09H
21F3	D3C0	OUT	(0C0H),A
21F5	CD1F20	CALL	DELAY
21F8	3E49	LD	A,49H
21FA	D380	OUT	(80H),A
21FC	3E19	LD	A,19H
21FE	D381	OUT	(81H),A
2200	3E09	LD	A,09H
2202	D3C0	OUT	(0C0H),A
2204	CD1F20	CALL	DELAY
2207	3E49	LD	A,49H
2209	D380	OUT	(80H),A
220B	3E29	LD	A,29H
220D	D381	OUT	(81H),A
220F	3E06	LD	A,06H
2211	D3C0	OUT	(0C0H),A
2213	CD1F20	CALL	DELAY
2216	3E41	LD	A,41H
2218	D380	OUT	(80H),A
221A	3E46	LD	A,46H
221C	D381	OUT	(81H),A
221E	CD1F20	CALL	DELAY
2221	3E7F	LD	A,7FH
2223	D3C0	OUT	(0C0H),A
2225	CD1F20	CALL	DELAY
2228	3E7F	LD	A,7FH
222A	D380	OUT	(80H),A
222C	3E26	LD	A,26H

222E	D381	OUT (81H),A
2230	3E49	LD A,49H
2232	D3C0	OUT (0C0H),A
2234	CD1F20	CALL DELAY
2237	3E40	LD A,40H
2239	D380	OUT (80H),A
223B	3E49	LD A,49H
223D	D381	OUT (81H),A
223F	3E49	LD A,49H
2241	D3C0	OUT (0C0H),A
2243	CD1F20	CALL DELAY
2246	3E40	LD A,40H
2248	D380	OUT (80H),A
224A	3E49	LD A,49H
224C	D381	OUT (81H),A
224E	3E49	LD A,49H
2250	D3C0	OUT (0C0H),A
2252	CD1F20	CALL DELAY
2255	3E40	LD A,40H
2257	D380	OUT (80H),A
2259	3E49	LD A,49H
225B	D381	OUT (81H),A
225D	3E41	LD A,41H
225F	D3C0	OUT (0C0H),A
2261	CD1F20	CALL DELAY
2264	3E40	LD A,40H
2266	D380	OUT (80H),A
2268	3E72	LD A,72H
226A	D381	OUT (81H),A
226C	CD1F20	CALL DELAY
226F	3E7F	LD A,7FH
2271	D3C0	OUT (0C0H),A
2274	CD1F20	CALL DELAY
2276	3E7F	LD A,7FH
2278	D380	OUT (80H),A
227A	3E41	LD A,41H
227C	D381	OUT (81H),A
227E	3E09	LD A,09H

2280	D3C0	OUT (0C0H),A
2282	CD1F20	CALL DELAY
2285	3E49	LD A,49H
2287	D380	OUT (80H),A
2289	3E7F	LD A,7FH
228B	D381	OUT (81H),A
228D	3E19	LD A,19H
228F	D3C0	OUT (0C0H),A
2291	CD1F20	CALL DELAY
2294	3E49	LD A,49H
2296	D380	OUT (80H),A
2298	3E41	LD A,41H
229A	D381	OUT (81H),A
229C	3E29	LD A,29H
229E	D3C0	OUT (0C0H),A
22A0	CD1F20	CALL DELAY
22A3	3E49	LD A,49H
22A5	D380	OUT (80H),A
22A7	3E46	LD A,46H
22A9	D3C0	OUT (0C0H),A
22AB	CD1F20	CALL DELAY
22AE	3E41	LD A,41H
22B0	D380	OUT (80H),A
22B2	3E01	LD A,01H
22B4	D381	OUT (81H),A
22B6	CD1F20	CALL DELAY
22B9	3E01	LD A,01H
22BB	D381	OUT (81H),A
22BD	3E26	LD A,26H
22BF	D3C0	OUT (0C0H),A
22C1	CD1F20	CALL DELAY
22C4	3E74	LD A,7FH
22C6	D380	OUT (80H),A
22C8	3E7F	LD A,7FH
22CA	D381	OUT (81H),A
22CC	3E49	LD A,49H
22CE	D3C0	OUT (0C0H),A
22D0	CD1F20	CALL DELAY

22D3	3E08	LD A,08H
22D5	D380	OUT (80H),A
22D7	3E01	LD A,01H
22D9	D381	OUT (81H),A
22DB	3E49	LD A,49H
22DD	D3C0	OUT (0C0H),A
22DF	CD1F20	CALL DELAY
22E2	3E14	LD A,14H
22E4	D380	OUT (80H),A
22E6	3E01	LD A,01H
22E8	D381	OUT (81H),A
22EA	3E49	LD A,49H
22EC	D3C0	OUT (0C0H),A
22EE	CD1F20	CALL DELAY
22F1	3E22	LD A,22H
22F3	D380	OUT (80H),A
22F5	3E32	LD A,32H
22F7	D3C0	OUT (0C0H),A
22F9	CD1F20	CALL DELAY
22FC	3E41	LD A,41H
22FE	D380	OUT (80H),A
2300	3E7E	LD A,7EH
2302	D381	OUT (81H),A
2304	CD1F20	CALL DELAY
2307	3E09	LD A,09H
2309	D381	OUT (81H),A
230B	3E7E	LD A,7EH
230D	D3C0	OUT (0C0H),A
230F	CD1F20	CALL DELAY
2312	3E01	LD A,01H
2314	D380	OUT (80H),A
2316	3E09	LD A,09H
2318	D381	OUT (81H),A
231A	3E09	LD A,09H
231C	D3C0	OUT (0C0H),A
231E	CD1F20	CALL DELAY
2321	3E01	LD A,01H
2323	D380	OUT (80H),A

2325	3E09	LD A,09H
2327	D381	OUT (81H),A
2329	3E09	LD A,09H
232B	D3C0	OUT (0C0H),A
232D	CD1F20	CALL DELAY
2330	3E7F	LD A,7FH
2332	D380	OUT (80H),A
2334	3E7E	LD A,7EH
2336	D381	OUT (81H),A
2338	3E09	LD A,09H
233A	D3C0	OUT (0C0H),A
233C	CD1F20	CALL DELAY
233F	3E01	LD A,01H
2341	D380	OUT (80H),A
2343	3E7E	LD A,7EH
2345	D3C0	OUT (0C0H),A
2347	CD1F20	CALL DELAY
234A	3E01	LD A,01H
234C	D380	OUT (80H),A
234E	3E26	LD A,26H
2350	D381	OUT (81H),A
2352	CD1F20	CALL DELAY
2355	3E49	LD A,49H
2357	D381	OUT (81H),A
2359	3E7F	LD A,7FH
235B	D3C0	OUT (0C0H),A
235D	CD1F20	CALL DELAY
2360	3E7F	LD A,7FH
2362	D380	OUT (80H),A
2364	3E49	LD A,49H
2366	D381	OUT (81H),A
2368	3E41	LD A,41H
236A	D3C0	OUT (0C0H),A
236C	CD1F20	CALL DELAY
236F	3E09	LD A,09H
2371	D380	OUT (80H),A
2373	3E49	LD A,49H
2375	D381	OUT (81H),A

2377	3E41	LD A,41H
2379	D3C0	OUT (0C0H),A
237B	CD1F20	CALL DELAY
237E	3E19	LD A,19H
2380	D380	OUT (80H),A
2382	3E32	LD A,32H
2384	D381	OUT (81H),A
2386	3E41	LD A,41H
2388	D3C0	OUT (0C0H),A
238A	CD1F20	CALL DELAY
238D	3E29	LD A,29H
238F	D380	OUT (80H),A
2391	3E3E	LD A,3EH
2393	D3C0	OUT (0C0H),A
2395	CD1F20	CALL DELAY
2398	3E46	LD A,46H
239A	D380	OUT (80H),A
239C	CD1F20	CALL DELAY
239F	3E7E	LD A,7EH
23A1	D3C0	OUT (0C0H),A
23A3	CD1F20	CALL DELAY
23A6	3E3E	LD A,3EH
23A8	D380	OUT (80H),A
23AA	3E09	LD A,09H
23AC	D3C0	OUT (0C0H),A
23AE	CD1F20	CALL DELAY
23B1	3E41	LD A,41H
23B3	D380	OUT (80H),A
23B5	3E09	LD A,09H
23B7	D3C0	OUT (0C0H),A
23B9	CD1F20	CALL DELAY
23BC	3E41	LD A,41H
23BE	D380	OUT (80H),A
23C0	3E09	LD A,09H
23C2	D3C0	OUT (0C0H),A
23C4	CD1F20	CALL DELAY
23C7	3E41	LD A,41H
23C9	D380	OUT (80H),A

23CB	3E7E	LD A,7EH
23CD	D3C0	DUT (0C0H),A
23CF	CD1F20	CALL DELAY
23D2	3E3E	LD A,3EH
23D4	D380	DUT (80H),A
23D6	CD1F20	CALL DELAY
23D9	C32920	JP 2029H

PROGRAM GAMBAR ROBOT

23DC	1622	LD D,22H
23DE	CD0020	CALL INIO
23E1	0EC1	LD C,0C1H
23E3	ED51	DUT (C),D
23E5	3E80	LD A,80H
23E7	D380	OUT (80H),A
23E9	3EFF	LD A,OFFH
23EB	D381	DUT (81H),A
23ED	CD1F20	CALL DELAY
23F0	3E80	LD A,80H
23F2	D380	OUT (80H),A
23F4	3E80	LO A,80H
23F6	D381	DUT (81H),A
23F8	CD1F20	CALL DELAY
23FB	3E80	LD A,80H
23FD	D380	OUT (80H),A
23FF	3EFF	LD A,OFFH
2401	D381	OUT (81H),A
2403	CD1F20	CALL DELAY
2406	3E87	LD A,87H
2408	D380	OUT (80H),A
240A	CD1F20	CALL DELAY
240D	3E84	LD A,84H
240F	D380	DUT (80H),A
2411	3EFF	LD A,OFFH
2413	D381	OUT (81H),A
2415	3E03	LD A,03H

2417	D3C0	OUT (0C0H),A
2419	CD1F20	CALL DELAY
241C	3E9E	LD A,9EH
241E	D380	OUT (80H),A
2420	3EE2	LD A,0E2H
2422	D3C0	OUT (0C0H),A
2424	CD1F20	CALL DELAY
2427	3EA5	LD A,0A5H
2429	D380	OUT (80H),A
242B	3EBE	LD A,0BEH
242D	D3C0	OUT (0C0H),A
242F	CD1F20	CALL DELAY
2432	3EE5	LD A,0E5H
2434	D380	OUT (80H),A
2436	3EFE	LD A,0FEH
2438	D381	OUT (81H),A
243A	3EBE	LD A,0BEH
243C	D3C0	OUT (0C0H),A
243E	CD1F20	CALL DELAY
2441	3EA1	LD A,0A1H
2443	D380	OUT (80H),A
2445	3E12	LD A,12H
2447	D381	OUT (81H),A
2449	3EE2	LD A,0E2H
244B	D3C0	OUT (0C0H),A
244D	CD1F20	CALL DELAY
2450	3EA1	LD A,0A1H
2452	D380	OUT (80H),A
2454	3E12	LD A,12H
2456	D381	OUT (81H),A
2458	3E02	LD A,02H
245A	D3C0	OUT (0C0H),A
245C	CD1F20	CALL DELAY
245F	3EA1	LD A,0A1H
2461	D380	OUT (80H),A
2463	3E12	LD A,12H
2465	D381	OUT (81H),A
2467	3EE2	LD A,0E2H

2469	D3C0	OUT (0C0H),A
246B	CDIF20	CALL DELAY
246E	3EE5	LD A,0E5H
2470	D380	OUT (80H),A
2472	3E02	LD A,02H
2474	D381	OUT (81H),A
2476	3EBE	LD A,0BEH
2478	D3C0	OUT (0C0H),A
247A	CDIF20	CALL DELAY
247D	3EA5	LD A,0A5H
247F	D380	OUT (80H),A
2481	3EBE	LD A,0BEH
2483	D3C0	OUT (0C0H),A
2485	CDIF20	CALL DELAY
2488	3E9E	LD A,9EH
248A	D380	OUT (80H),A
248C	3EE2	LD A,0E2H
248E	D3C0	OUT (0C0H),A
2490	CDIF20	CALL DELAY
2493	3E84	LD A,84H
2495	D380	OUT (80H),A
2497	3EFF	LD A,0FFH
2499	D381	OUT (81H),A
249B	3E03	LD A,03H
249D	D3C0	OUT (0C0H),A
249F	CDIF20	CALL DELAY
24A2	3E87	LD A,87H
24A4	D380	OUT (80H),A
24A6	CDIF20	CALL DELAY
24A9	3E80	LD A,80H
24AB	D380	OUT (80H),A
24AD	3EFF	LD A,0FFH
24AF	D381	OUT (81H),A
24B1	CDIF20	CALL DELAY
24B4	3E80	LD A,80H
24B6	D380	OUT (80H),A
24B8	3E80	LD A,80H
24BA	D381	OUT (81H),A

24BC	CD1F20	CALL DELAY
24BF	3E80	LD A,80H
24C1	D380	OUT (80H),A
24C3	3EFF	LD A,0FFH
24C5	D381	OUT (81H),A
24C7	CD1F20	CALL DELAY
24CA	C3DC23	JP 23DCH

PROGRAM TES

24CD	CD0020	CALL INIO
24D0	0EC1	LD C,0C1H
24D2	3EFF	LD A,0FFH
24D4	0600	LD B,00H
24D6	1650	LD D,50H
24D8	D380	OUT (80H),A
24DA	D381	OUT (81H),A
24DC	D3C0	OUT (0C0H),A
24DE	ED41	OUT (C),B
24E0	CDE924	CALL Loop1
24E3	04	INC B
24E4	15	DEC D
24E5	28ED	JR Z,Loop2
24E7	18F5	JR Loop3
24E9	08	EX AF,AF'
24EA	3A001F	LD A,(1F00H)
24ED	5F	LD E,A
24EE	2648	LD H,48H
24F0	25	DEC H
24F1	20FD	JR NZ,Loop4
24F3	1D	DEC E
24F4	20F8	JR NZ,Loop5
24F6	08	EX AF,AF'
24F7	C9	RET

PROGRAM HURUF A

24F8	CD0020		CALL INIO
24FB	CD1120		CALL SCREEN
24FE	0E81		LD C,81H
2500	1E00		LD E,00H
2502	3E22	Loop6:	LD A,22H
2504	267E		LD D,7EH
2506	D3C1		OUT (0C1H),A
2508	ED51		OUT (C),D
250A	CD1A20		CALL TIME
250D	3C		INC A
250E	1609		LD D,09H
2510	ED59		OUT (C),E
2512	D3C1		OUT (0C1H),A
2514	ED51		OUT (C),D
2516	CD1A20		CALL TIME
2519	3C		INC A
251A	D3C1		OUT (0C1H),A
251C	CD1A20		CALL TIME
251F	3C		INC A
2520	D3C1		OUT (0C1H),A
2522	CD1A20		CALL TIME
2525	167E		LD D,7EH
2527	ED59		OUT (C),E
2529	3C		INC A
252A	D3C1		OUT (0C1H),A
252C	ED51		OUT (C),D
252E	CD1A20		CALL TIME
2531	C3F824		JP 24F8H

DATA PRIBADI PENULIS

Nama : Fransiskus

Jenis kelamin : Laki-laki

Tempat/tanggal lahir : Dabo Singkep, 1 Januari 1969

Agama : Katholik

Alamat : Pamulang Permai I Blok AX.07/19
Ciputat 15417

Pendidikan : - SD UPTS Raya Dabo Singkep
Tamat Tahun 1982

- SMP Negeri II Dabo Singkep
Tamat Tahun 1985

- SMA Negeri I Dabo Singkep
Tamat Tahun 1988

- Universitas Darma Persada Jakarta
Tamat Tahun 1994

Jakarta, Agustus 1994

Fransiskus

