

memory address	contents	comments	opcode_8	opcode_10	opcode_2	R	IX	I	Address_10	Address_2	full bin	hex address	hex instruction	text file contents
1	XXX: 1000	first location for storing the 20 numbers									0000000111101000	1	3E8	1 3E8
2	YYY: 1	we also will frequently increment and decrement the XXX position by 1									0000000000000001	2	1	2 1
3	ZZZ: 0	closest distance so far (location in memory to be used to store this information)									0000000000000000	3	0	3 0
4	WWW: 0	actual number which is closest so far (location in memory to be used to store this information)									0000000000000000	4	0	4 0
5	QQQ: 0	target number (location in memory to be used to store the target number)									0000000000000000	5	0	5 0
6	IN 0, 0	1. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	6	C400	6 C400
7	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	7	821	7 821
8	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	8	1101	8 1101
9	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	9	1901	9 1901
10	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	A	901	A 901
11	IN 0, 0	2. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	B	C400	B C400
12	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	C	821	C 821
13	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	D	1101	D 1101
14	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	E	1901	E 1901
15	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	F	901	F 901
16	IN 0, 0	3. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	10	C400	10 C400
17	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	11	821	11 821
18	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	12	1101	12 1101
19	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	13	1901	13 1901
20	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	14	901	14 901
21	IN 0, 0	4. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	15	C400	15 C400
22	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	16	821	16 821
23	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	17	1101	17 1101
24	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	18	1901	18 1901
25	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	19	901	19 901
26	IN 0, 0	5. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	1A	C400	1A C400
27	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	1B	821	1B 821
28	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	1C	1101	1C 1101
29	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	1D	1901	1D 1901
30	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	1E	901	1E 901
31	IN 0, 0	6. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	1F	C400	1F C400
32	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	20	821	20 821
33	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	21	1101	21 1101
34	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	22	1901	22 1901
35	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	23	901	23 901
36	IN 0, 0	7. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	24	C400	24 C400
37	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	25	821	25 821
38	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	26	1101	26 1101
39	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	27	1901	27 1901
40	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	28	901	28 901
41	IN 0, 0	8. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	29	C400	29 C400
42	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	0000100000100001	2A	821	2A 821
43	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	2B	1101	2B 1101
44	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	2C	1901	2C 1901
45	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	2D	901	2D 901
46	IN 0, 0	9. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	2E	C400	2E C400

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47	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	2F	821	2F 821
48	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	30	1101	30 1101
49	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	31	1901	31 1901
50	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	32	901	32 901
51	IN 0, 0	10. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	33	C400	33 C400
52	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	34	821	34 821
53	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	35	1101	35 1101
54	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	36	1901	36 1901
55	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	37	901	37 901
56	IN 0, 0	11. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	38	C400	38 C400
57	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	39	821	39 821
58	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	3A	1101	3A 1101
59	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	3B	1901	3B 1901
60	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	3C	901	3C 901
61	IN 0, 0	12. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	3D	C400	3D C400
62	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	3E	821	3E 821
63	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	3F	1101	3F 1101
64	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	40	1901	40 1901
65	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	41	901	41 901
66	IN 0, 0	13. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	42	C400	42 C400
67	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	43	821	43 821
68	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	44	1101	44 1101
69	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	45	1901	45 1901
70	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	46	901	46 901
71	IN 0, 0	14. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	47	C400	47 C400
72	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	48	821	48 821
73	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	49	1101	49 1101
74	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	4A	1901	4A 1901
75	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	4B	901	4B 901
76	IN 0, 0	15. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	4C	C400	4C C400
77	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	4D	821	4D 821
78	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	4E	1101	4E 1101
79	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	4F	1901	4F 1901
80	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	50	901	50 901
81	IN 0, 0	16. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	51	C400	51 C400
82	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	52	821	52 821
83	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	53	1101	53 1101
84	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	54	1901	54 1901
85	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	55	901	55 901
86	IN 0, 0	17. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	56	C400	56 C400
87	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	57	821	57 821
88	AMR 1, 0, 0, XXX	get storage location from memory	04	4	000100	01	00	0	1	00001	0001000100000001	58	1101	58 1101
89	AIR 1, 1	increment storage location in gpr1	06	6	000110	01	00	0	1	00001	0001100100000001	59	1901	59 1901
90	STR 1, 0, 0, XXX	store storage location back into memory	02	2	000010	01	00	0	1	00001	0000100100000001	5A	901	5A 901
91	IN 0, 0	18. read input number	61	49	110001	00	00	0	0	00000	1100010000000000	5B	C400	5B C400
92	STR 0, 0, 1, XXX	store input number at storage location	02	2	000010	00	00	1	1	00001	00001000000100001	5C	821	5C 821

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