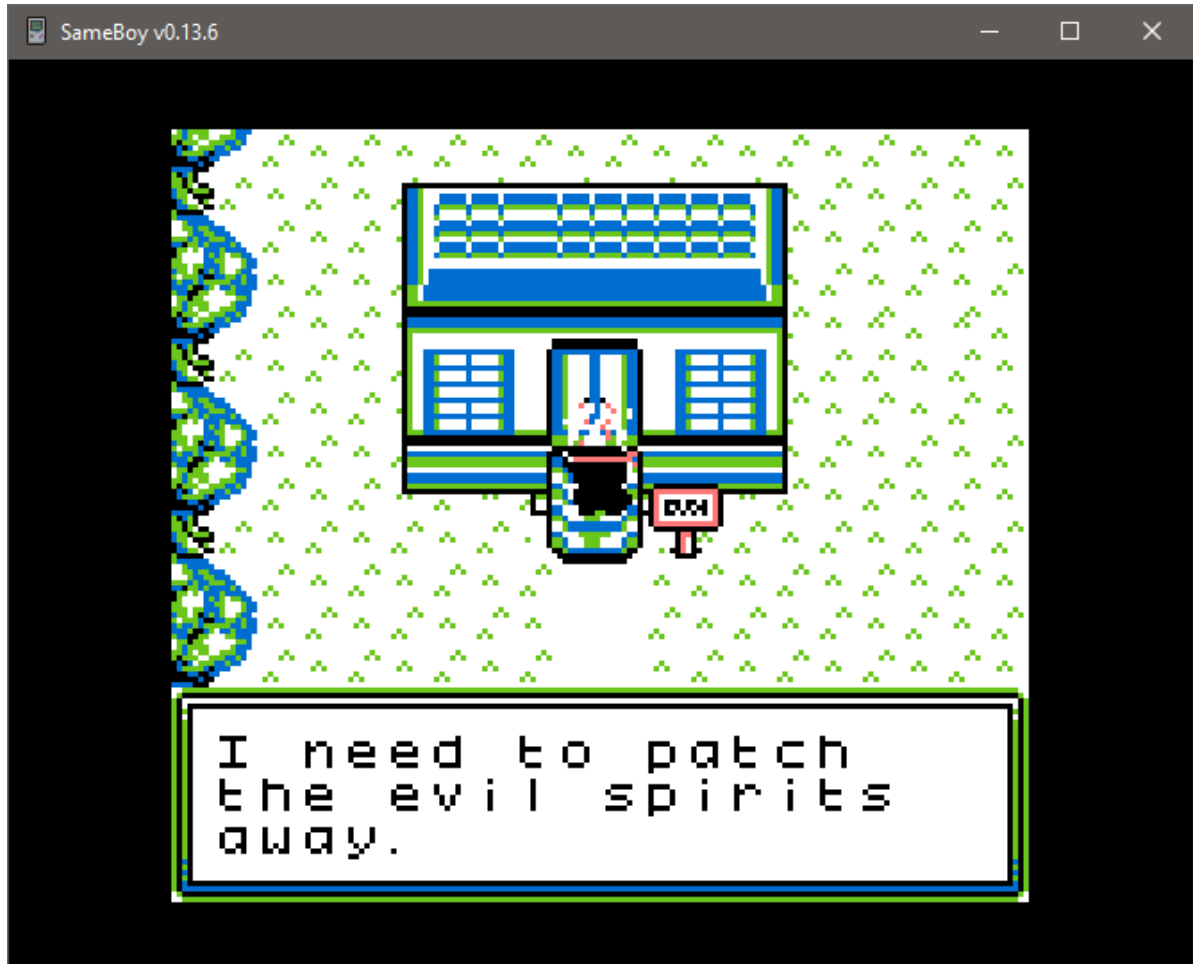


# What is it?

We are provided with a GameBoy ROM that we are supposed to reverse engineer in order to obtain the flag. The game is a simple map where access to a building is locked off, and the goal is to patch the game to let you in to the restricted area.



# How to solve it?

I opened the file in Ghidra expecting to patch a few things here and there. My first idea was to see if certain strings that are printed to the user during gameplay can be found in memory, and by finding them I could find the functionality that checks whether you can clip into the restricted area.

Funnily enough (as opposed to my expectations) the flag was stored in plaintext in the file itself, so by using a hex editor we could just extract it.

Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	Decoded text
00018220	20	77	68	61	74	20	77	61	73	0A	67	6F	69	6E	67	20	what was going
00018230	6F	6E	3F	00	03	4E	69	6E	6A	61	73	20	64	6F	6E	27	on?..Ninjas don'
00018240	74	20	72	75	6E	0A	61	77	61	79	20	66	72	6F	6D	20	t run away from
00018250	61	0A	63	68	61	6C	6C	65	6E	67	65	2E	2E	2E	00	02	a challenge.....
00018260	54	68	65	20	77	61	74	65	72	20	73	65	65	6D	73	0A	The water seems.
00018270	76	65	72	79	20	63	61	6C	6D	2E	00	02	48	65	79	20	very calm...Hey
00018280	79	6F	75	20	73	68	6F	75	6C	64	6E	27	74	0A	62	65	you shouldn't be
00018290	20	69	6E	20	68	65	72	65	21	20	00	03	54	68	69	73	in here! ..This
000182A0	20	69	73	20	74	68	65	20	22	48	61	63	6B	0A	74	68	is the "Hack.th
000182B0	65	20	62	6F	78	22	20	73	65	72	76	65	72	0A	72	6F	e box" server.ro
000182C0	6F	6D	2E	20	53	74	61	66	66	20	6F	6E	6C	79	21	00	om. Staff only!.
000182D0	03	48	65	27	73	20	73	74	75	63	6B	20	69	6E	20	73	.He's stuck in s
000182E0	6F	6D	65	0A	74	72	61	6E	63	65	2D	6C	69	6B	65	0A	ome.trance-like.
000182F0	73	74	61	74	65	2E	2E	2E	00	03	49	20	6E	65	65	64	state.....I need
00018300	20	74	6F	20	70	61	74	63	68	0A	74	68	65	20	65	76	to patch.the ev
00018310	69	6C	20	73	70	69	72	69	74	73	0A	61	77	61	79	2E	il spirits.away.
00018320	00	02	48	54	48	7B	43	30	30	6C	5F	53	68	75	72	69	. [HTB]{C00l_Shuri
00018330	6B	33	6E	7D	00	BA	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	k3n).*yyyyyyyyyy
00018340	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	yyyyyyyyyyyyyyyy
00018350	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	yyyyyybbyyyyyyyy
00018360	FF	FF	FF	00	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	yyy.yyyyyyyyyyyy
00018370	FF	FF	FF	FF	7F	FF	FD	FF	FD	FF	FD	FF	FD	FF	FD	FF	yyyyyy.yyyyyyyyyy
00018380	FF	FD	FF	FD	FF	FD	FF	00	FF	00	FF	00	FF	00	FF	07	yyyyyy.y.y.y.y.y
00018390	FF	0F	FF	1F	FF	1F	FF	00	FF	00	FF	00	FF	00	FF	F0	y.y.y.y.y.y.y.y0
000183A0	FF	F8	FF	E4	FF	E4	FF	00	FF	00	FF	00	FF	00	FF	00	wey&y&y.y.y.y.y
000183B0	FF	00	FF	00	FF	00	FF	BF	FF	BF	FF	BF	FF	BF	FF	BF	y.y.y.y.y.y.y.y.y
000183C0	FF	BF	FF	BF	FF	BF	FF	1F	FF	1F	FF	0D	FF	05	FF	00	y.y.y.y.y.y.y.y.y
000183D0	FF	00	FF	00	FF	FF	FF	24	FF	24	FF	20	FF	20	FF	00	y.y.yyyyy y y y.
000183E0	FF	00	FF	00	FF	FF	FF	00	FF	00	FF	00	FF	00	FF	00	y.y.yyy.y.y.y.y.y
000183F0	FF	00	FF	00	FF	FF	FF	00	FF	00	FF	00	FF	00	FF	00	y.y.yyy.y.y.y.y.y
00018400	FF	00	FF	00	40	A0	FF	00	FF	00	FF	00	FF	00	FF	00	y.y.0 y.y.y.y.y.y
00018410	FF	00	FF	00	02	05	FF	FF	00	00	01	01	00	00	00	00	y.y...yy.....
00018420	00	00	01	01	00	00	FF	FF	00	00	00	01	FE	FE	44	00	.....vv.....bbD.

**FLAG:** HTB{C00l\_Shurik3n}