

Mark Garcia 018019103

CECS 378

Due: 10/22/2021

Lab 2

Write up at bottom of doc.

Offsets for created character

Stats in SAVED.GAM			
	offsets:	Maxed out:	X ₁₆ → little endian.
Str:	x00E	99	63 ₁₆
Int:	x010	99	63 ₁₆
Dex:	x00F	99	63 ₁₆
Hp:	x012	999	E703 ₁₆
Max HP:	x014	999	E703 ₁₆
Exp:	x016	9999	70F2
Gold:	x204	9999	70F2 ₁₆

Offsets for additional requirements portion

Additional Requirements:	set to	X ₁₆
Keys: 0x206	100	64
Skull keys: 0x20B	100	64
Gems: 0x207	100	64
black badge: 0x21B	1	01
magic carpets: 0x20A	2	02
magic axes: 0x240	10	0A

Character #2 Shamino

start @ 0x022

Str: 0x02E

Int: 0x030

Dex: 0x02F

Hp: 0x032

Max HP: 0x034

Exp: 0x036

Character #3 Iolo

start @ 0x042

Str: 0x04E

Int: 0x050

Dex: 0x04F

Hp: 0x052

Max HP: 0x054

Exp: 0x056

Character #4 Marich

start @ 0x062

Str: 0x06E

Int: 0x070

Dex: 0x06F

Hp: 0x072

Max HP: 0x074

Exp: 0x076

Character #5 Geoffrey

start @ 0x082

Str: 0x08E

Int: 0x090

Dex: 0x08F

Hp: 0x092

Max HP: 0x094

Exp: 0x096

Character #6 Diana

start @ 0x0A2

Str: 0x0AE

Int: 0x0B0

Dex: 0x0AF

Hp: 0x0B2

Max HP: 0x0B4

Exp: 0x0B6

Character #7 Julig

start @ 0x0C2

Str: 0x0CE

Int: 0x0D0

Dex: 0x0CF

Hp: 0x0D2

Max HP: 0x0D4

Exp: 0x0D6

Character #8 Dupre

start @ 0x0E2

Str: 0x0EE

Int: 0x0F0

Dex: 0x0EF

Hp: 0x0F2

Max HP: 0x0F4

Exp: 0x0F6

Character #9 Katrina

start @ 0x102

Str: 0x10E

Int: 0x110

Dex: 0x10F

Hp: 0x112

Max HP: 0x114

Exp: 0x116

Character #10 Senthri

start @ 0x122

Str: 0x12E

Int: 0x130

Dex: 0x12F

Hp: 0x132

Max HP: 0x134

Exp: 0x136

Character #11 Gurno

start @ 0x142

Str: 0x14E

Int: 0x150

Dex: 0x14F

Hp: 0x152

Max HP: 0x154

Exp: 0x156

Character #12 JohnL

start @ 0x162

Str: 0x16E

Int: 0x170

Dex: 0x16F

Hp: 0x172

Max HP: 0x174

Exp: 0x176

Character #13 Gurn

start @ 0x182

Str: 0x18E

Int: 0x190

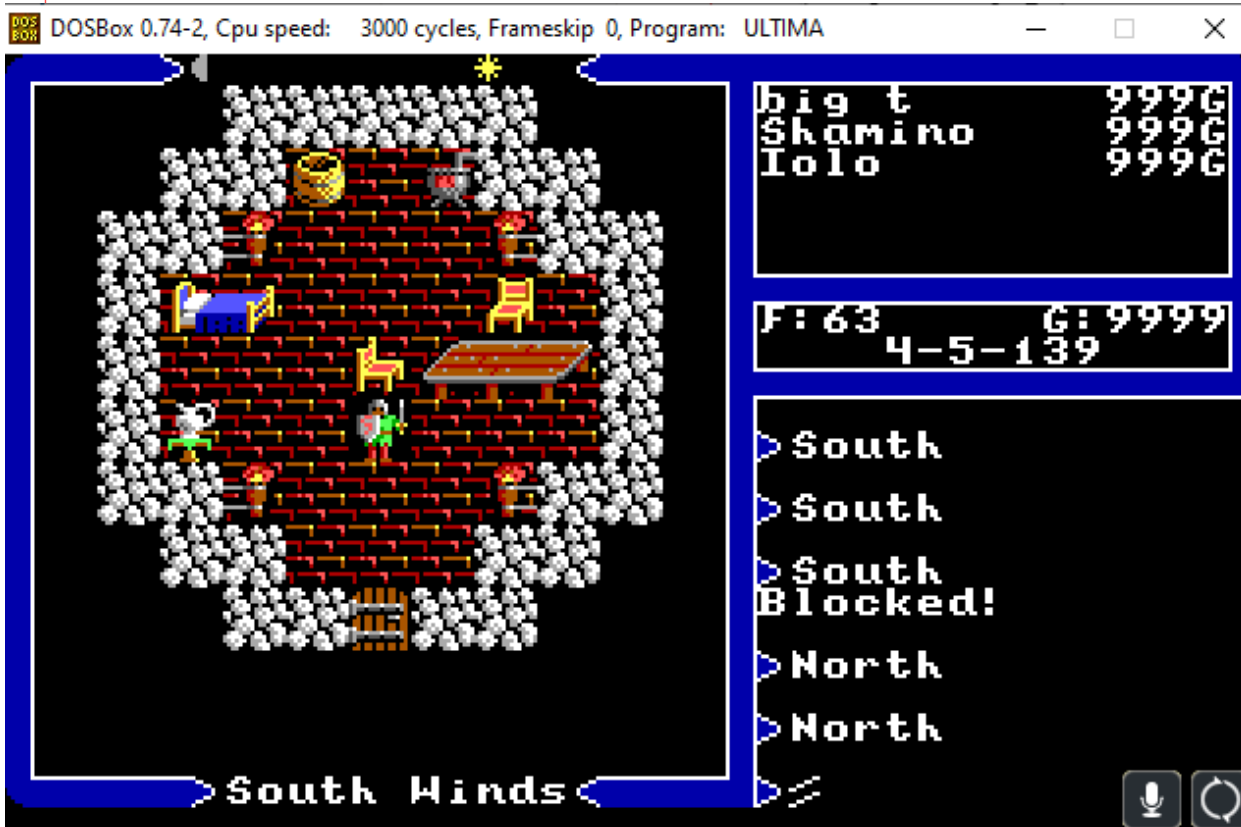
Dex: 0x18F

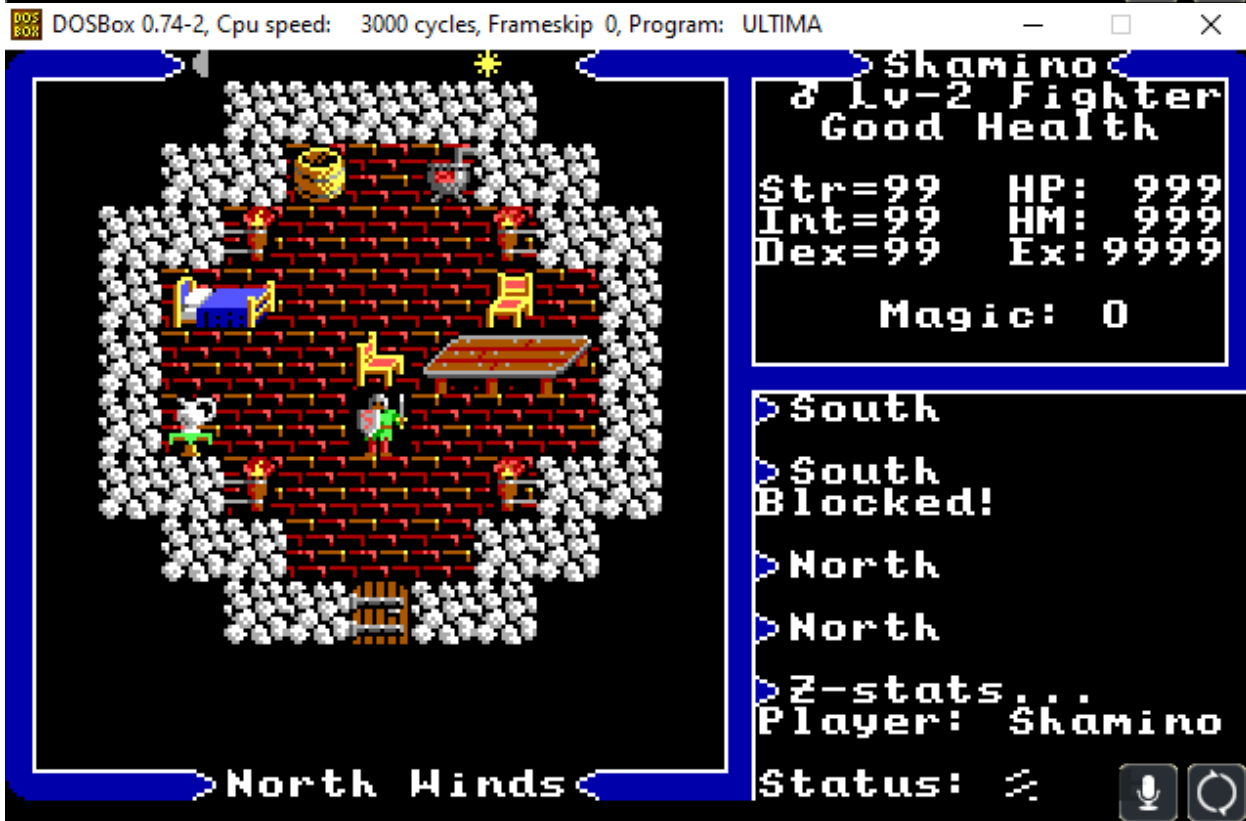
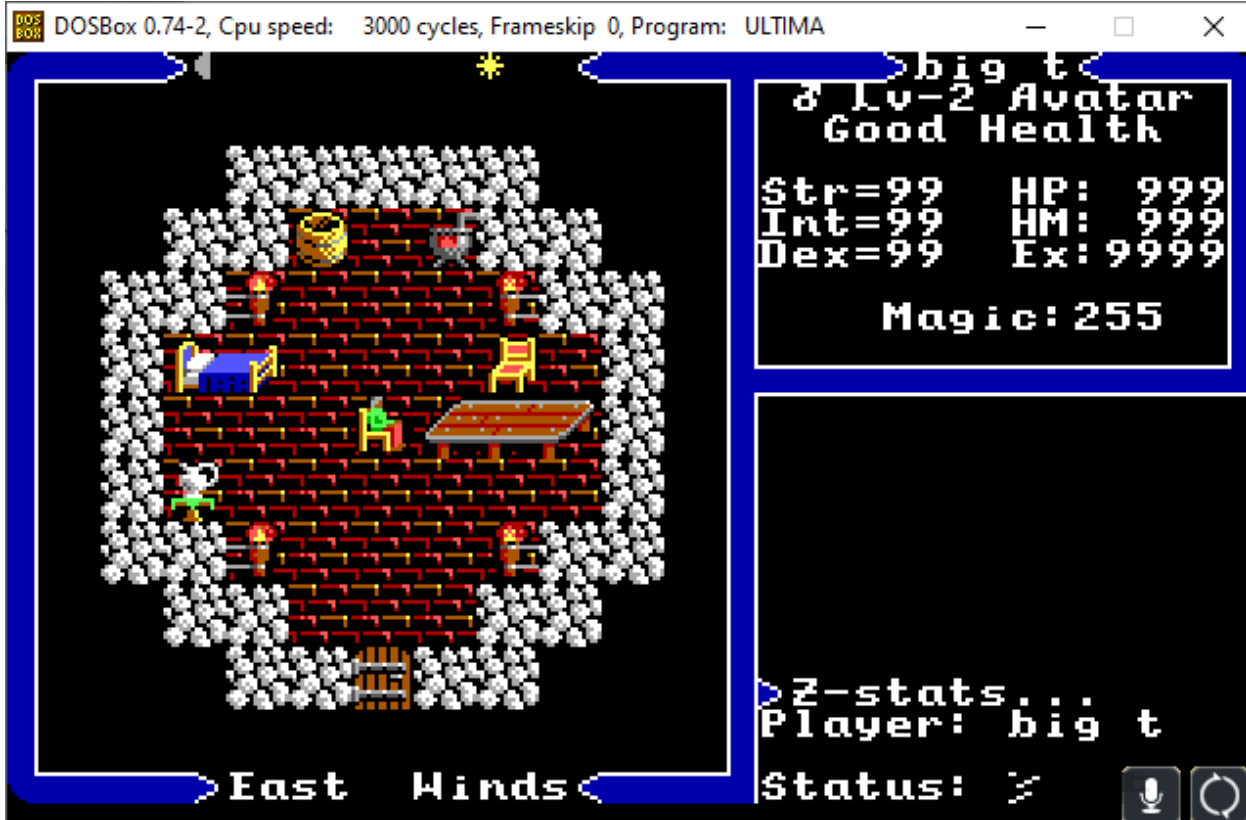
Hp: 0x192

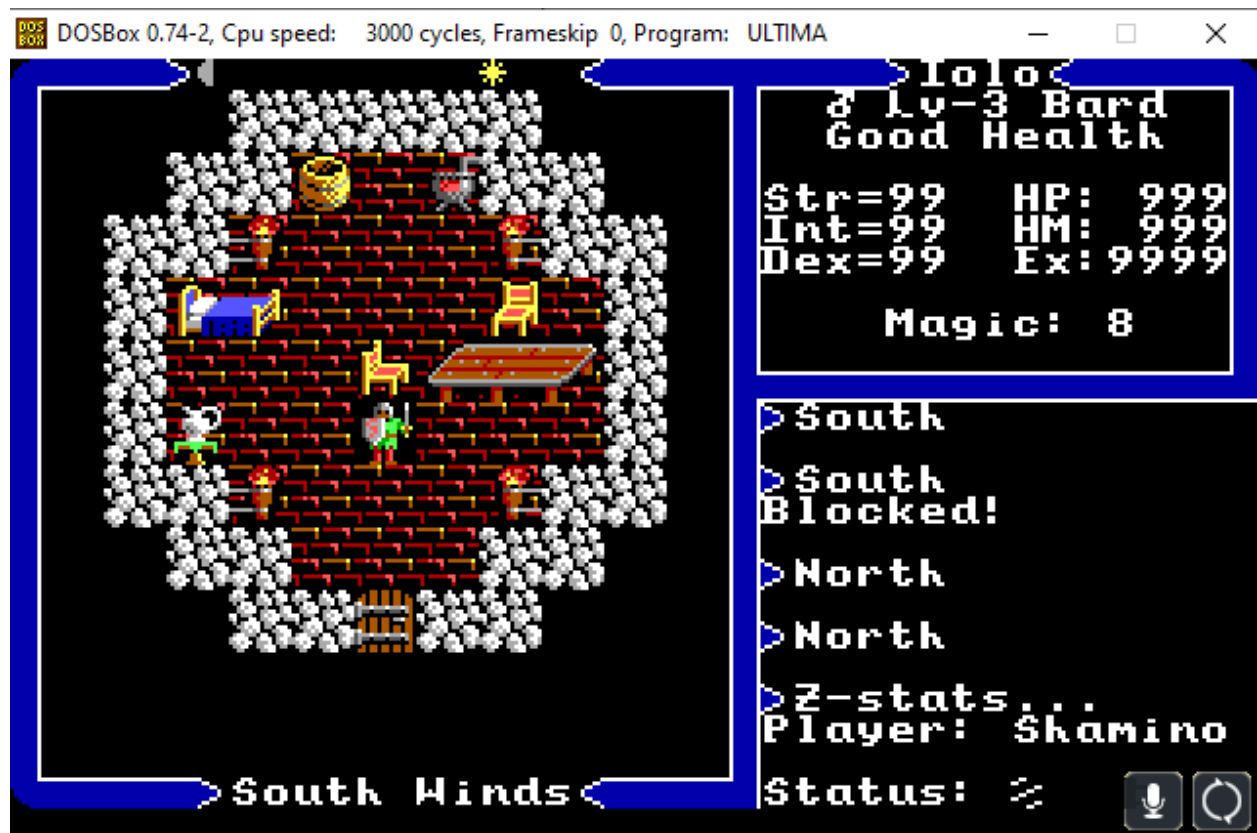
Max HP: 0x194

Exp: 0x196

Character #14 Max	Character #15 Toshi	Character #16 Sndy
start @ 0x1A2	start @ 0x1C2	start @ 0x1E2
Str: 0x1AE	Str: 0x1CE	Str: 0x1EE
Int: 0x180	Int: 0x1D0	Int: 0x1F0
Dex: 0x1AF	Dex: 0x1CF	Dex: 0x1EF
Hp: 0x1B2	Hp: 0x1D2	Hp: 0x1F2
Max HP: 0x1B4	Max HP: 0x1D4	Max HP: 0x1F4
Exp: 0x1B6	Exp: 0x1D6	Exp: 0x1F6







For this assignment, the way that I determined what file to alter was really just a guess and check until I found the SAVED.GAM file. I just ended up assuming this is the file that I had to alter because it was the file that had my character's name, along with the other characters in my party. Using HxD, finding the offsets was trial and error until I was able to find at least the HP stat in the game. I did this by taking a screenshot of the hex editor, taking some damage, saving the game and seeing what changed and where. I did the same thing for gold; kill a mob, get gold, and see where that changed. For the rest of the stats, it was a bunch of trial and error. I did the same thing for Shamino and Iolo. Then I realized that for all the characters, their name's offset and other stats followed a simple pattern and that's how I changed the offsets for the other characters. I did some research for the other items in the game in the additional requirements portion of the lab to find their location in the file.

Writing the program was fairly simple. I read the file in r+b mode so I can read it as bytes and also write to it. Using the offsets, I used the `.seek()` function to move my pointer to the part I want to change. I took in user input as an integer then using the `.to_bytes()`, I could make it into a usable variable to write into the file. Using the `.write` function, I overwrote whatever was at my pointer location. I repeated this process for every character and item that needed to be adjusted. I could not optimize the code because I was running out of time, so as a result it is 1000+ lines long but there are a lot of repeating lines of code with only a couple changes and that is the offset along with the range of the new value. Sorry in advance.