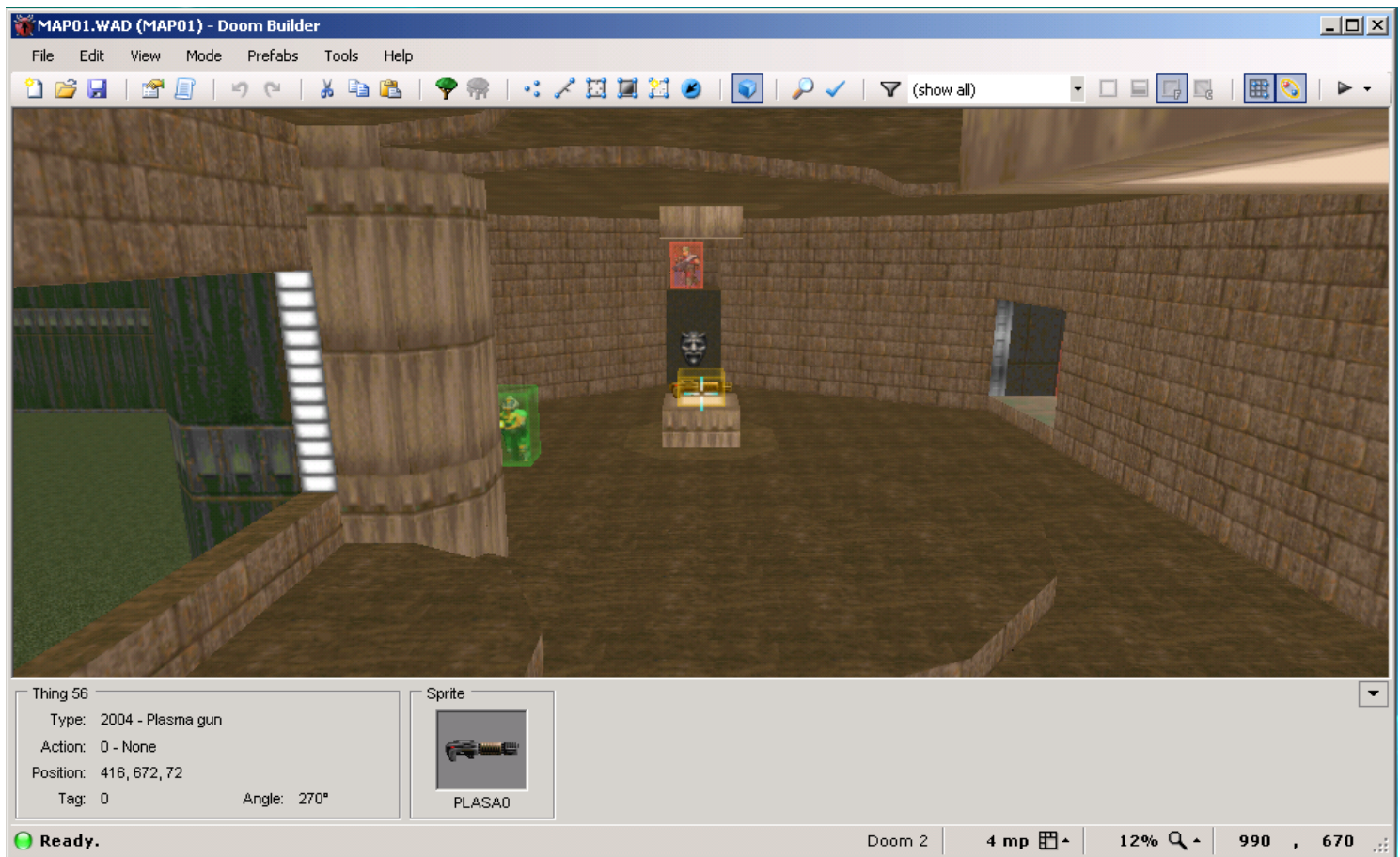
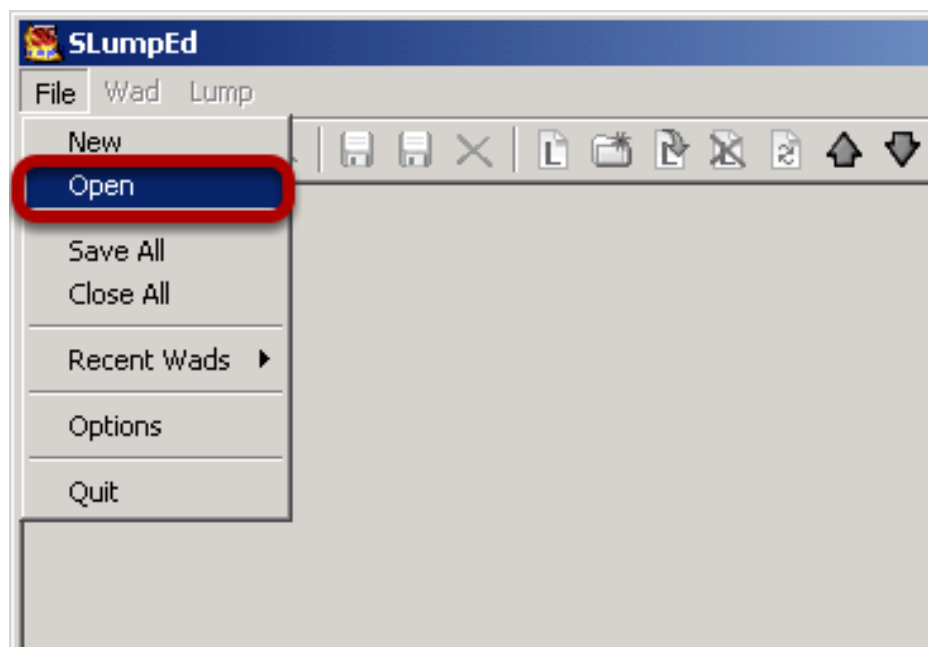


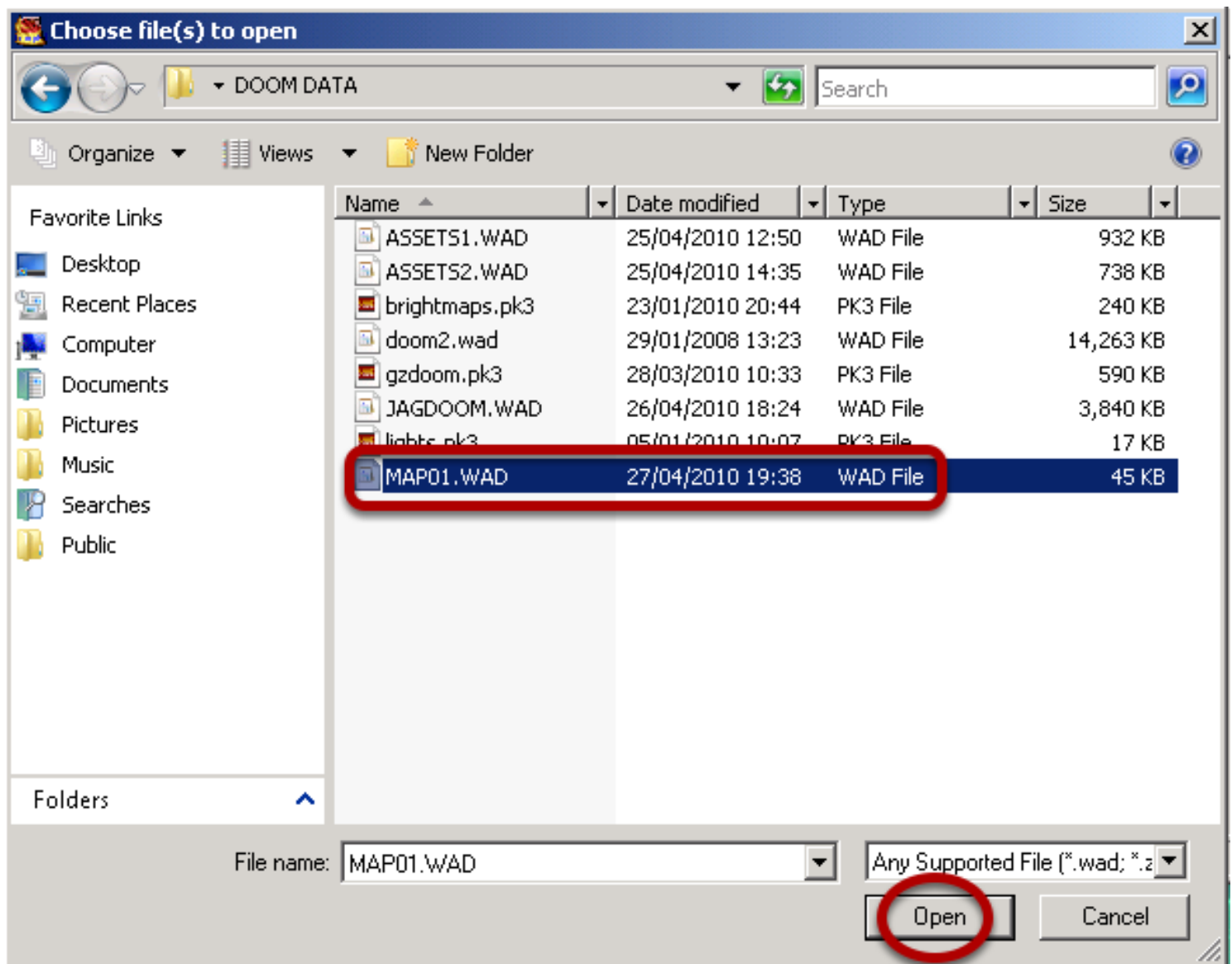
The big hack



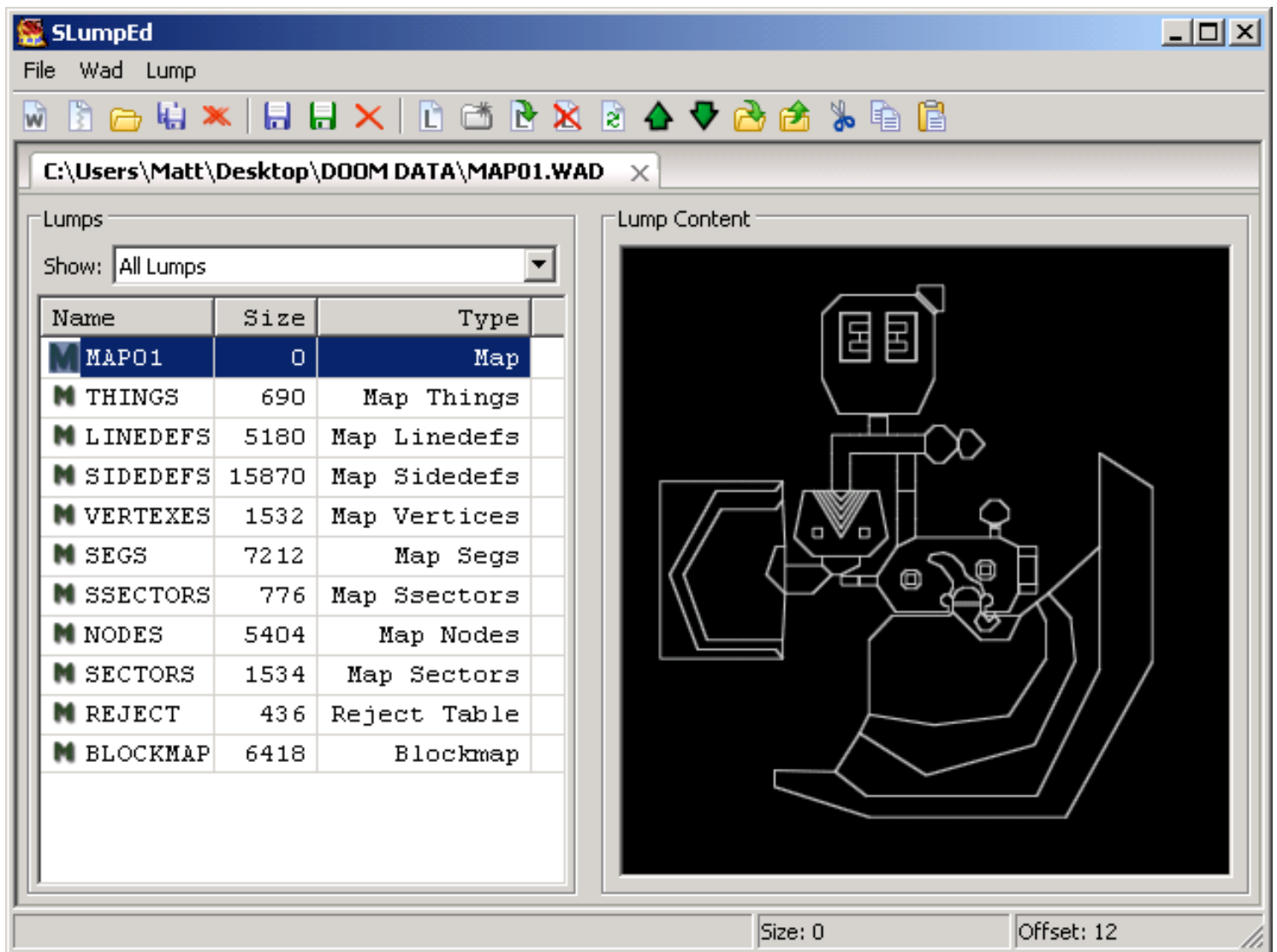
So here it is the Jaguar compatible version of **MAP01** from Doom 2. I've saved it into the **DOOM DATA** folder and will now use other programs to start the "injection" process.



Start **SLumpEd**, go to the File menu, click on open.



Locate the **DOOM DATA** folder and select **MAP01.WAD**, click Open.



This shows us a quick outline of the map, and the 10 important files we need and their respective sizes, we can forget the **MAP01** entry it is of no use. Even in this day and age of computers we still need pen and paper. I normally use that to write down the info but for ease of use I will use M\$ Excel for a screenshot. But you should get the general idea.

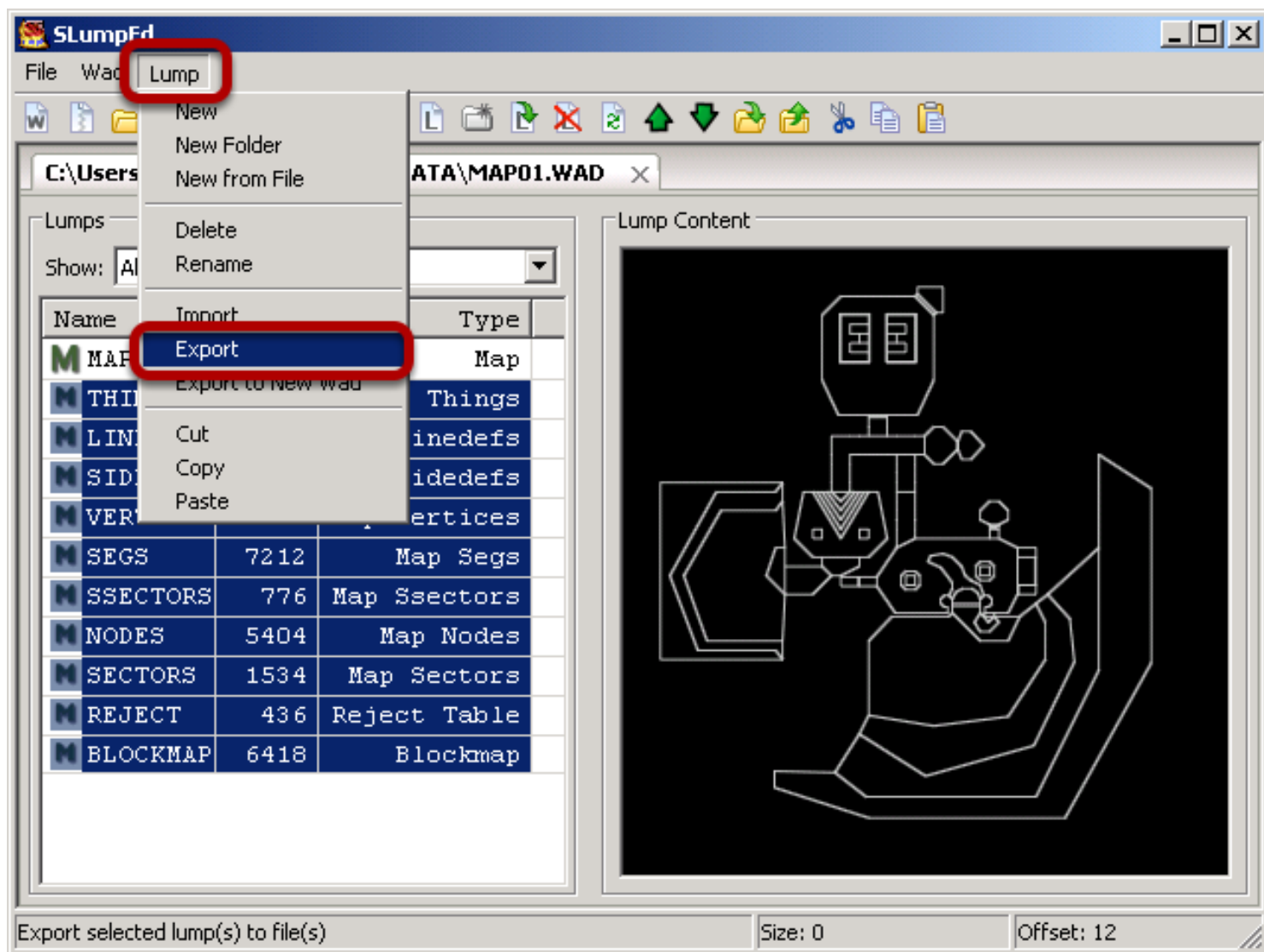
Microsoft Excel - MAP01.xls

File Edit View Insert Format Tools Data Window Help

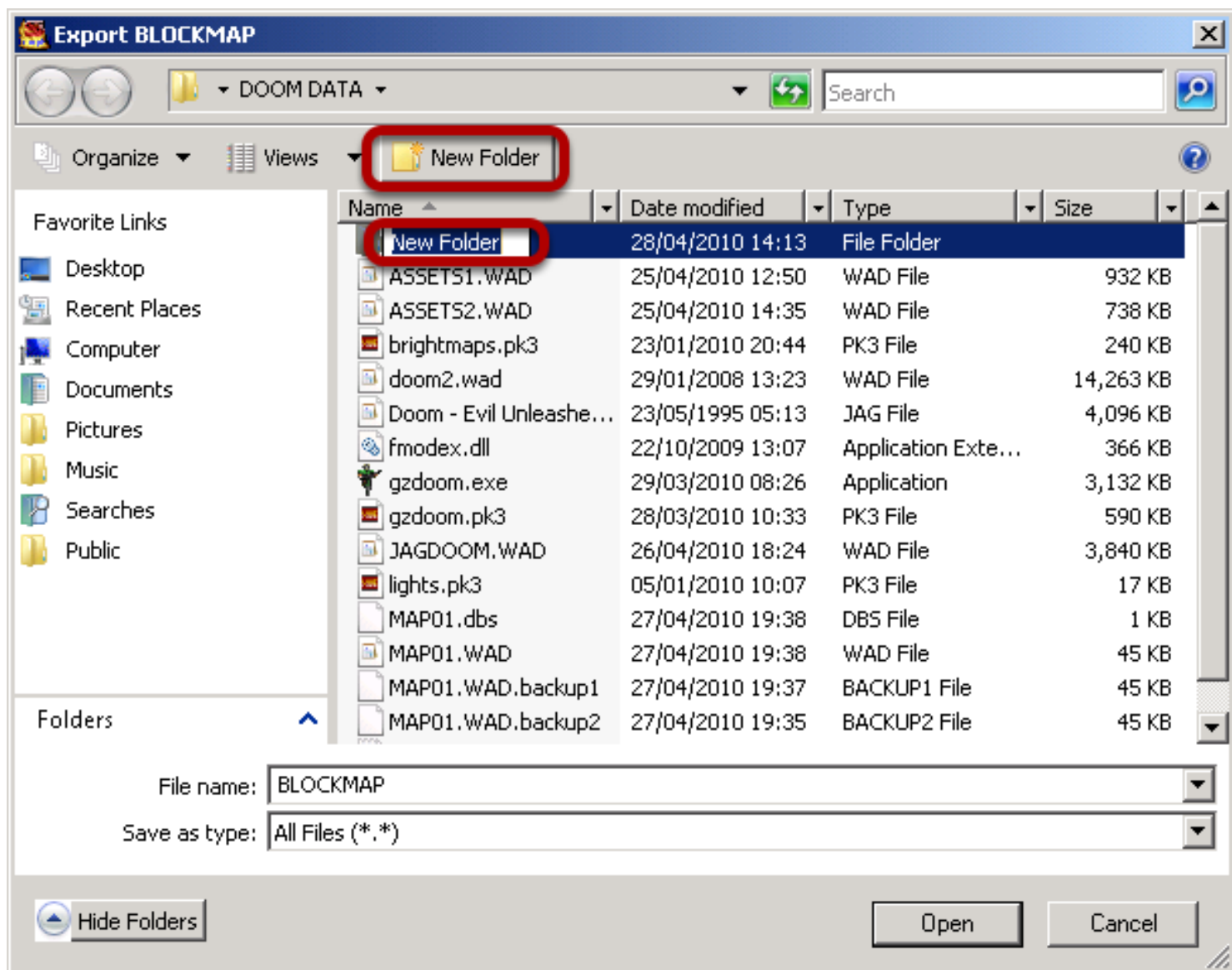
A30 fx

	A	B	C	D
3	MAP01	SIZE	PADDING	START ADDRESS
4	THINGS	690		1481116
5	LINEDEFS	5180		
6	SIDEDEFS	15870		
7	VERTEXES	1532		
8	SEGS	7212		
9	SSECTORS	776		
10	NODES	5404		
11	SECTORS	1534		
12	REJECT	436		
13	BLOCKMAP	6418		
14				
15				

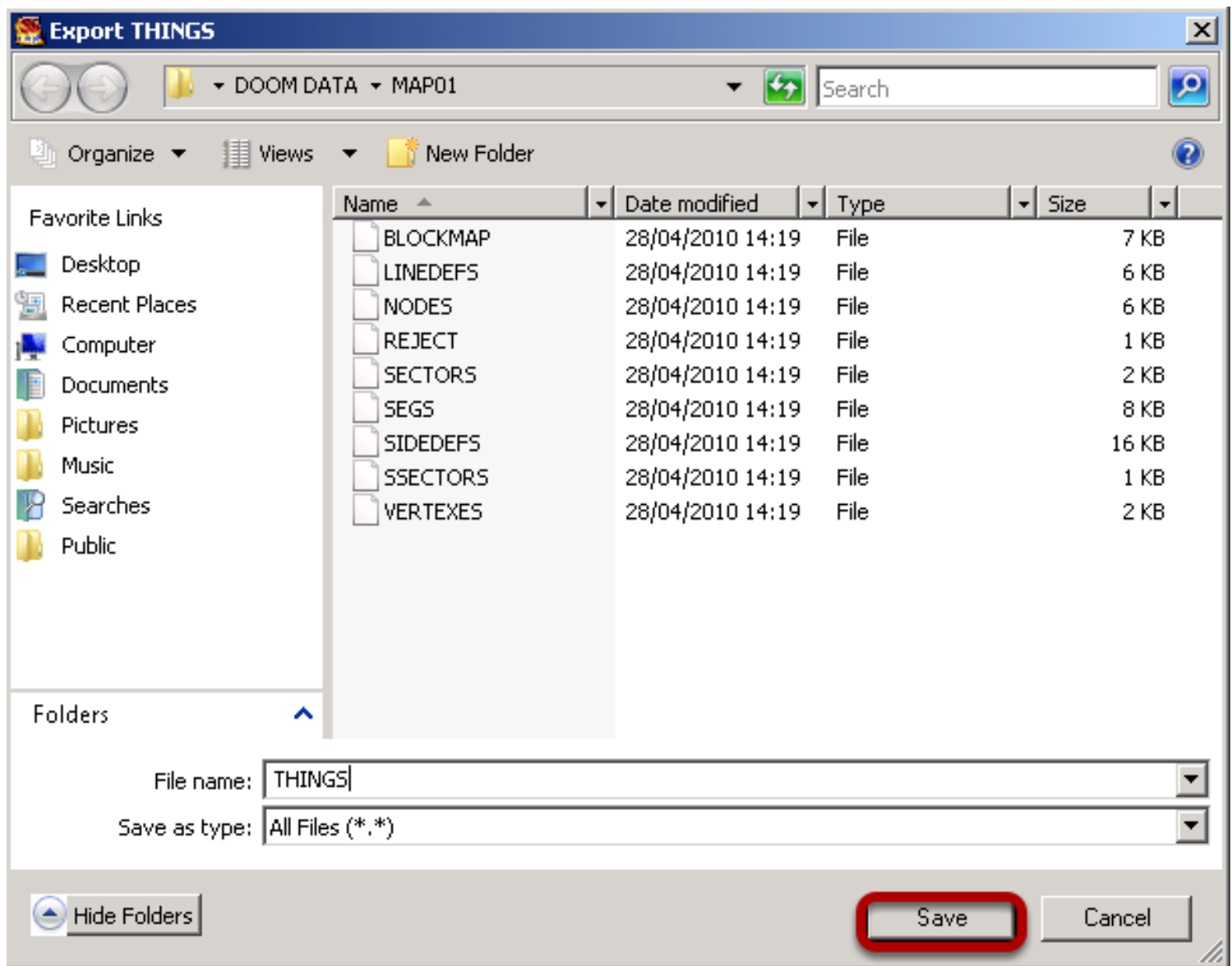
Here we go, I use this sort of arrangement every time I do a map. As you can see we have a row for each file and three columns. Size, self explanatory. Padding, this is used to write down how much padding the file will need. Lastly we have start address, this will point to a location within the Atari jaguar Doom wad file. Because this will be the first map I already know the start address. When adding more maps the start address for the first file of the next map will be this number here (i know its empty now... but wait a bit)



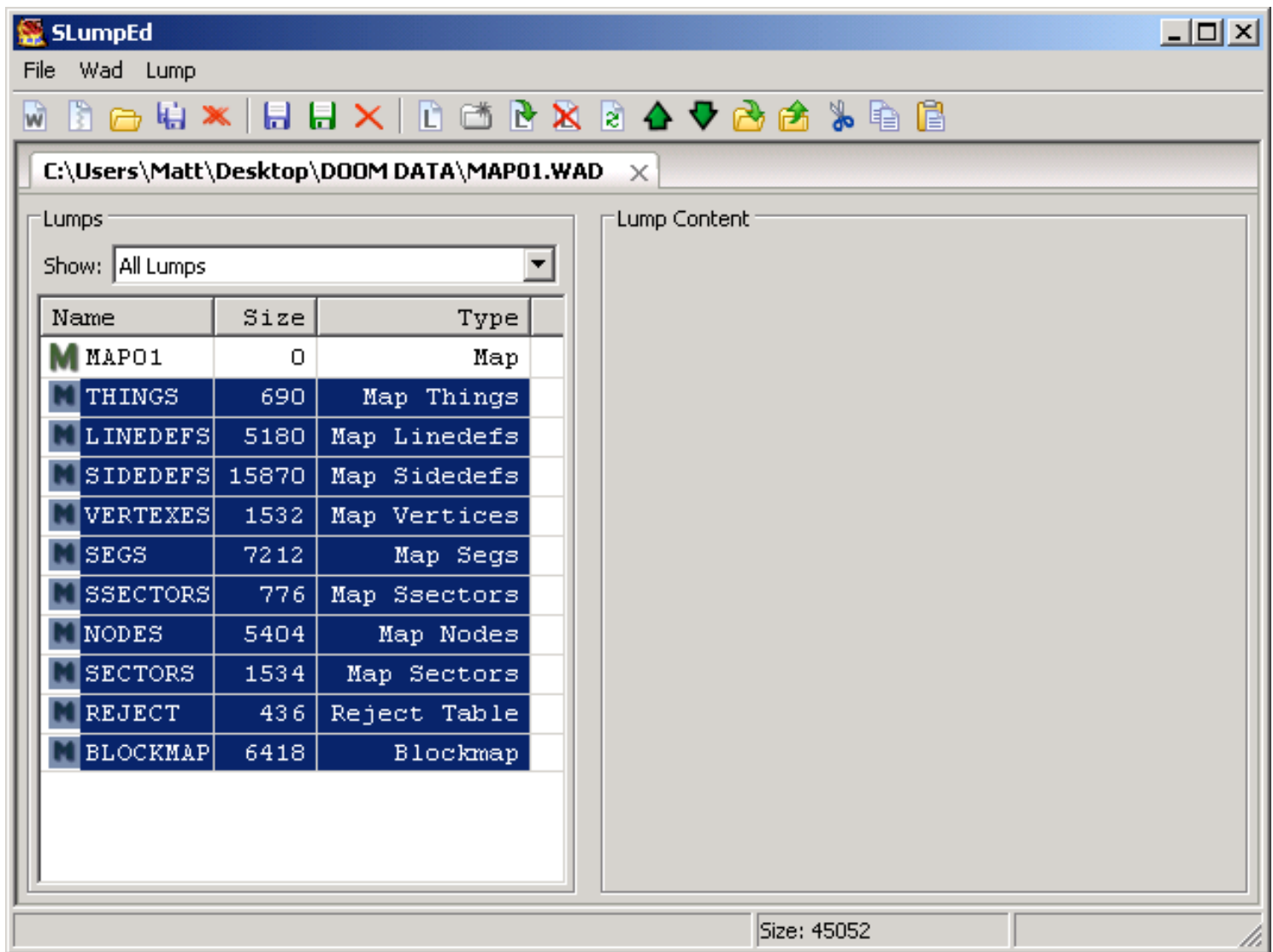
We will now save out all the files from the wad. Highlight the 10 needed files, go to Lump and then Export.



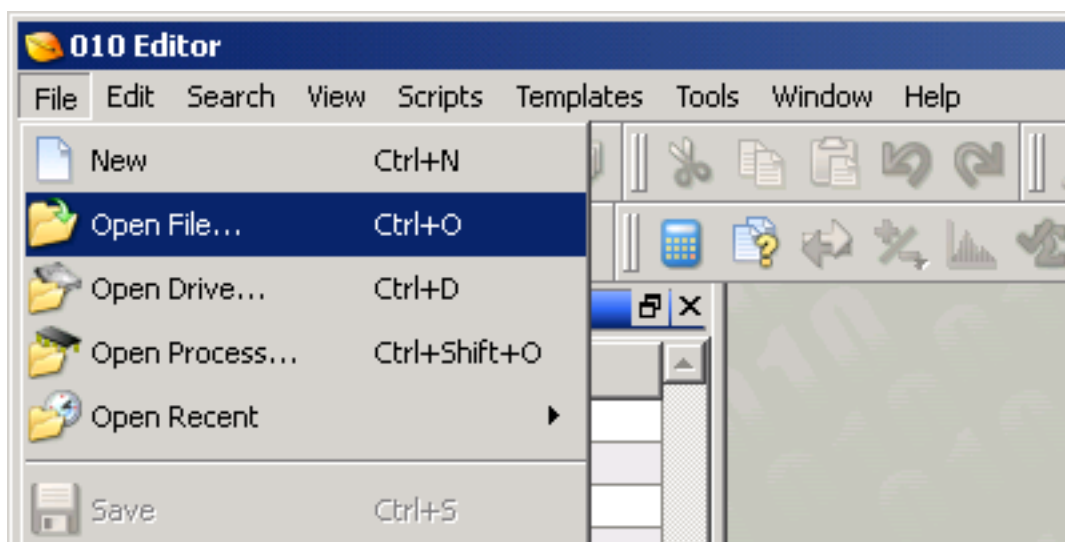
Locate the **DOOM DATA** folder, and while we are there, create a new folder. Lets call it **MAP01**, click on the newly created folder, and we should now be in **DOOM DATA / MAP01**



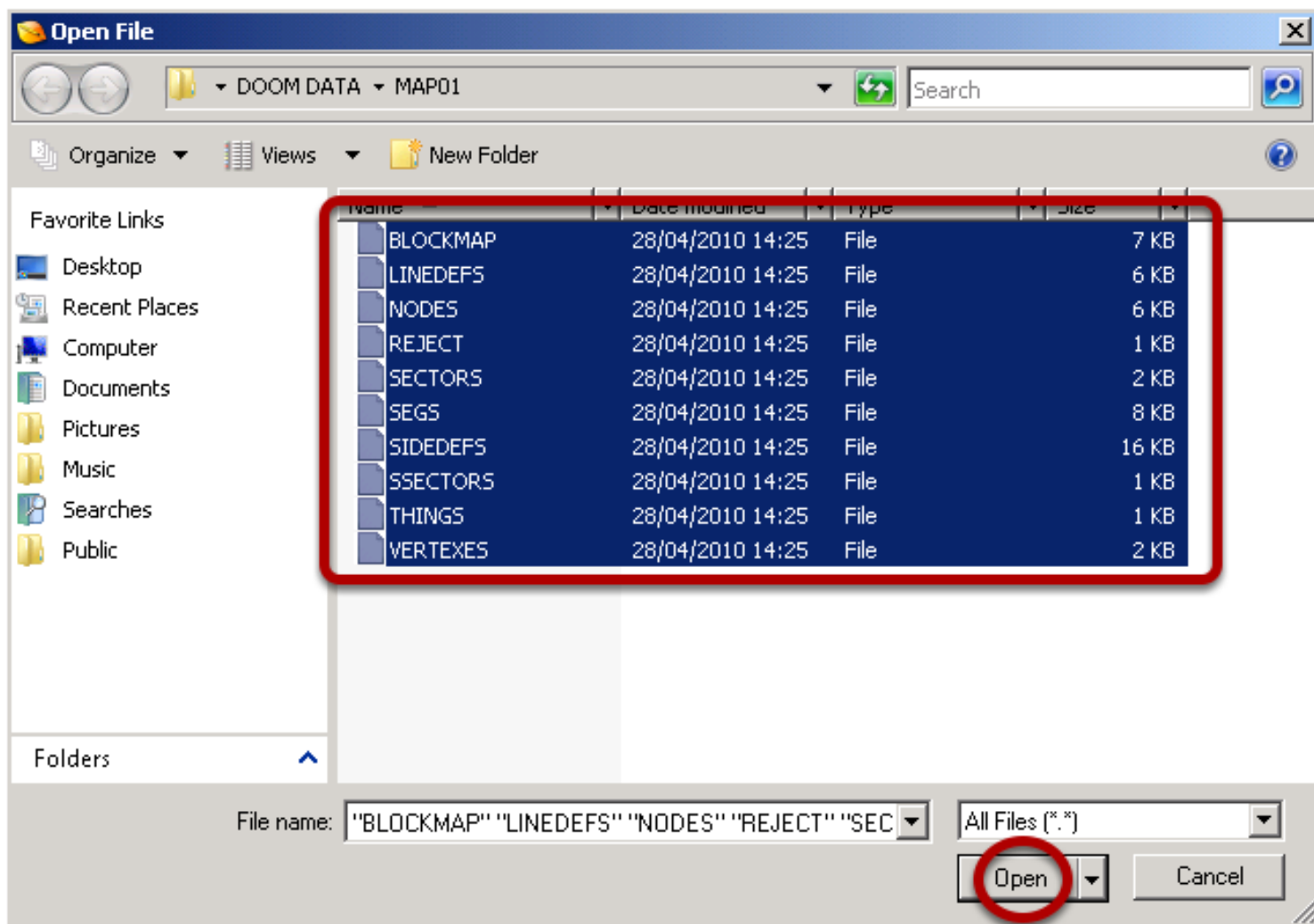
Save all 10 files, the save dialogue should change 10 times, just keep clicking save



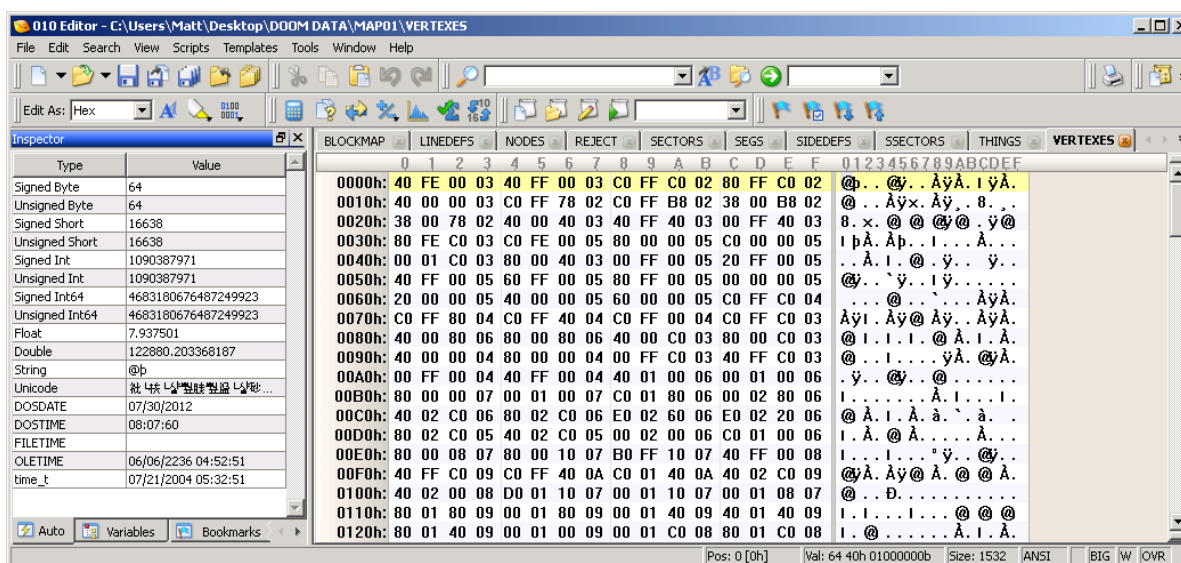
The program should return back to this screen, its job has been done. We can quit the program.



Start up **010 Editor**, go to the File menu, click on open File...

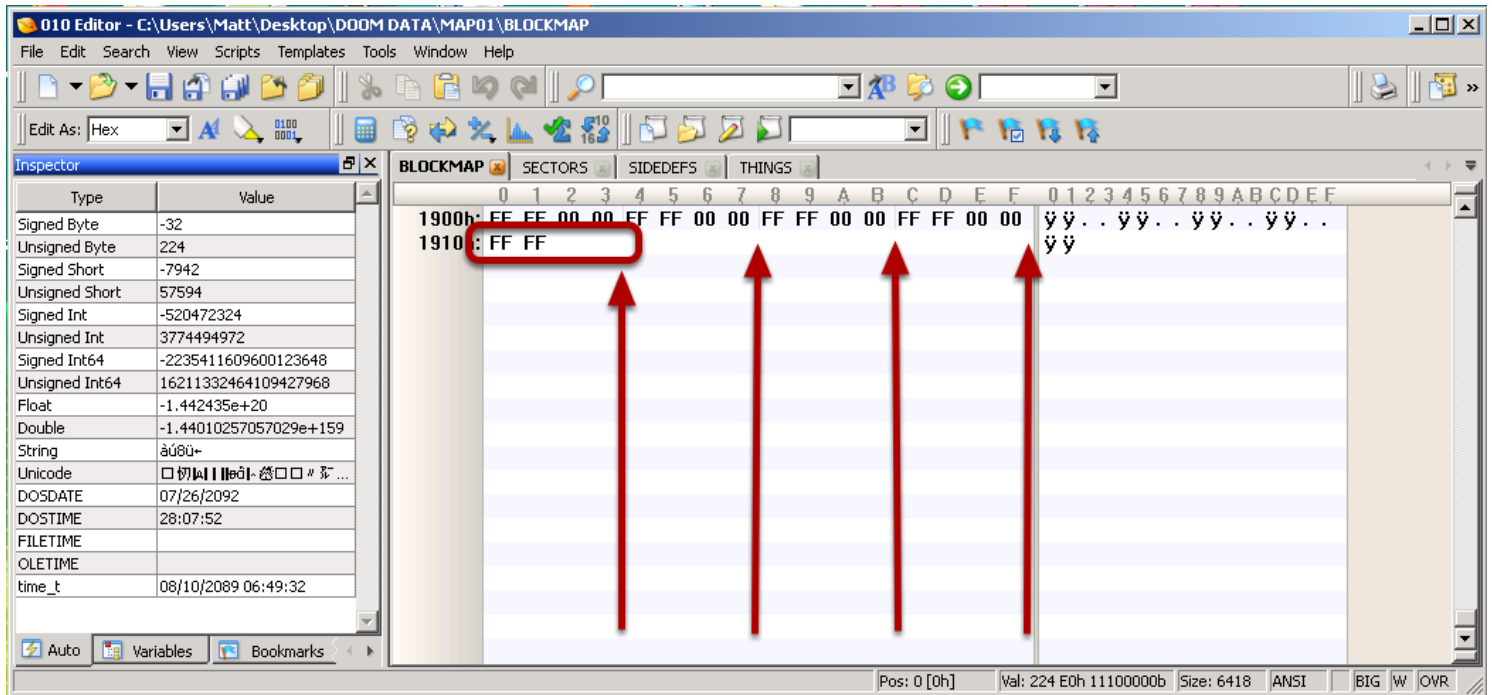


Find the **MAP01** folder inside the **DOOM DATA** folder, open it and select all files, Click open.

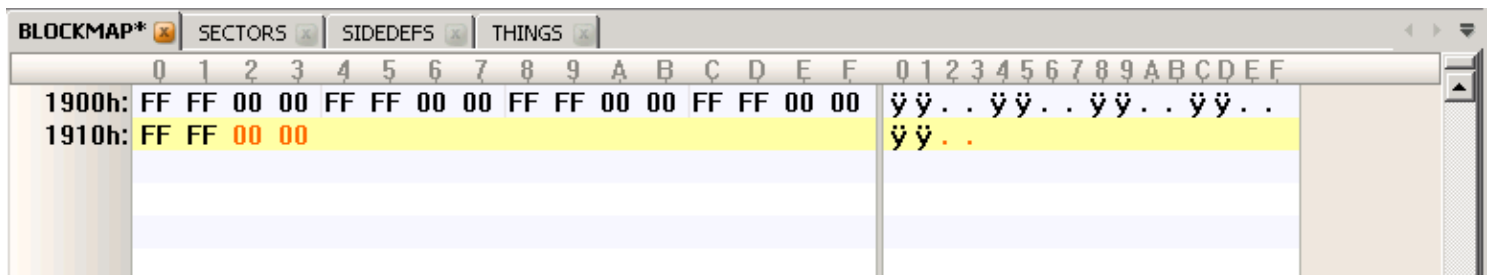


We now have all 10 files loading into **010 Editor**, lets check to see if the files need padding. The Jaguar reads files 4 bytes at a time, any file that does not have a 4 byte boundary needs padding until it does. We pad out the files with **00** in hex, and make a note on our grid how much padding we used for each

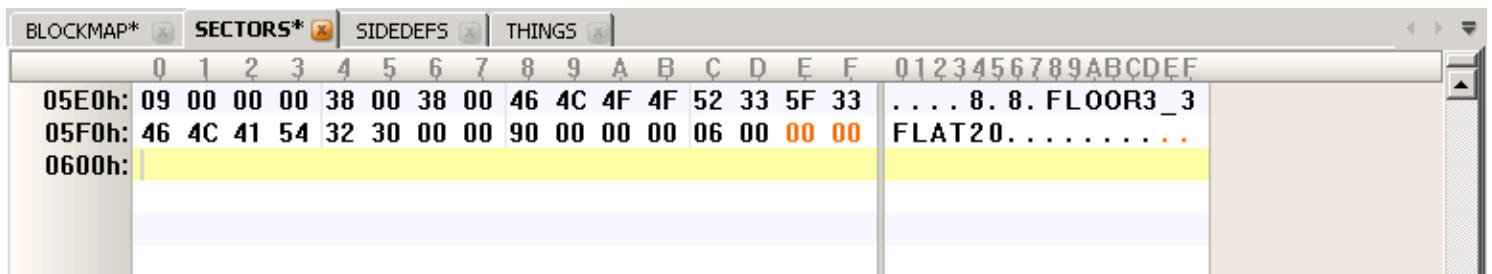
file. I checked all the files and only 4 need padding (**BLOCKMAP**,**SECTORS**,**SIDEDEFS** and **THINGS**). Lets pad those files now.



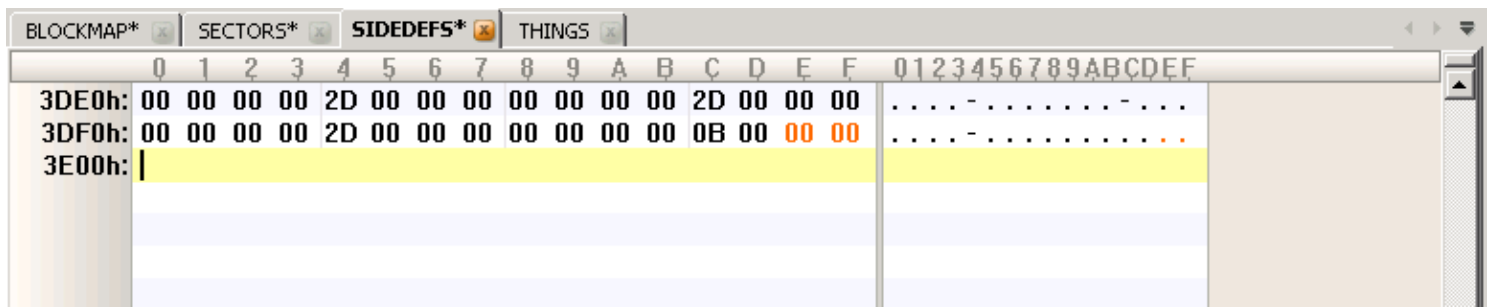
OK, I have closed the tabs for the files that do not need padding. Looking at the end of the first file **BLOCKMAP** we can see we are indeed 2 bytes short of the 4 bytes boundary. I will add a couple of null bytes (00 in hex)



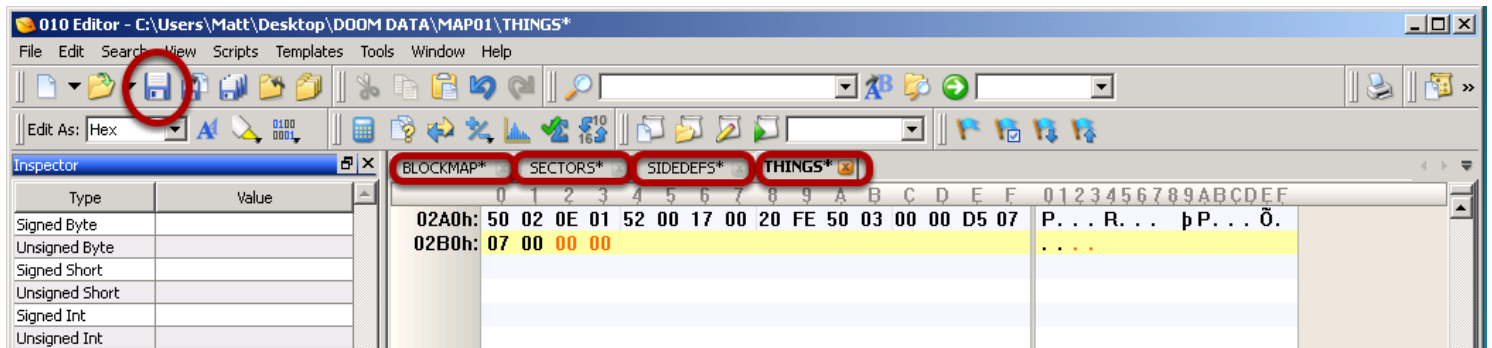
BLOCKMAP is now padded, the added bytes are highlighted in orange. So +2 bytes are written in the grid for blockmap.



SECTORS is now padded, the added bytes are highlighted in orange. So +2 bytes are written in the grid for sectors.



SIDEDEFS is now padded, the added bytes are highlighted in orange. So +2 bytes are written in the grid for sidedefs.



THINGS is now padded, the added bytes are highlighted in orange. So +2 bytes are written in the grid for things. Also notice the asterisk next to each file name. It means the file has been modified but not saved. To save the file click on the disk icon. The asterisk will disappear, click on the tabs for each file, then on the disk icon. when done exit the program.

Microsoft Excel - MAP01.xls							
File Edit View Insert Format Tools Data Window Help							
C22 fx							
	A	B	C	D	E		
3	MAP01	SIZE	PADDING	START ADDRESS			
4	THINGS	690	+	2	+	1481116	=
5	LINEDEFS	5180					
6	SIDEDEFS	15870	2				
7	VERTEXES	1532					
8	SEGS	7212					
9	SSECTORS	776	2				
10	NODES	5404					
11	SECTORS	1534					
12	REJECT	436					
13	BLOCKMAP	6418	2				
14							
15							
16							

There we go, the padding values have been transfered over onto our grid. Time to get the calculator out and fill up the grid. There is a calculator in **010 Editor**, but i prefer to do it this way, although we will be using its decimal to hex converter a bit later on. The way to fill out the grid is like this. **SIZE + PADDING + START ADDRESS**, the total is written in the start address for the next file. Then you carry on until the final total is written in the **START ADDRESS** box on its own.

	A	B	C	D	E
1					
2					
3	MAP01	SIZE	PADDING	START ADDRESS	
4	THINGS	690	2	1481116	
5	LINEDEFS	5180		1481808	
6	SIDEDEFS	15870	2	1486988	
7	VERTEXES	1532		1502860	
8	SEGS	7212		1504392	
9	SSECTORS	776	2	1511604	
10	NODES	5404		1512382	
11	SECTORS	1534		1517786	
12	REJECT	436		1519320	
13	BLOCKMAP	6418	2	1519756	
14				1526176	
15					
16					

Here is the completed grid, and that I'm afraid is the end of todays lesson, the next lesson will be up in a day or so and will see us doing some cheesy hacking 8-).