

Assignment 02

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INTRODUCTION

In this assignment I will use HxD Hex Editor to extract information embedded within File Slack of various files.

PROCESS

Step 1: *Download the thumbdrive image and open it on HxD.*

To begin, I downloaded the thumbdrive file from the “assignment 2” OneDrive and opened it with HxD Hex Editor.

```

Offset(h) 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F Decoded text
00000000 33 C0 8E D0 BC 00 7C 8E C0 8E D8 BE 00 7C BF 00 3AŽD4. |ŽAŽ04. |ž. Sector 0
00000010 06 B9 00 02 FC F3 A4 50 68 1C 06 CB FB B9 04 00 .'.üóMPh..Ěú¹..
00000020 BD BE 07 80 7E 00 00 7C 0B 0F 85 0E 01 83 C5 10 %4.€~..|.....fĀ.
00000030 E2 F1 CD 18 88 56 00 55 C6 46 11 05 C6 46 10 00 aňĪ. ^V.UĚF...ĚF..
00000040 B4 41 BB AA 55 CD 13 5D 72 0F 81 FB 55 AA 75 09 'A»^UĪ.|r...ŮU^u.
00000050 F7 C1 01 00 74 03 FE 46 10 66 60 80 7E 10 00 74 =Ā..t.pF.f'€~.t
00000060 26 66 68 00 00 00 00 66 FF 76 08 68 00 00 68 00 &fh....fŷv.h..h.
00000070 7C 68 01 00 68 10 00 B4 42 8A 56 00 8B F4 CD 13 |h..h..'BŠV.<óĪ.
00000080 9F 83 C4 10 9E EB 14 B8 01 02 BB 00 7C 8A 56 00 ŸfĀ.žě,...».|ŠV.
00000090 8A 76 01 8A 4E 02 8A 6E 03 CD 13 66 61 73 1C FE Šv.ŠN.Šn.Ī.fas.p
000000A0 4E 11 75 0C 80 7E 00 80 0F 84 8A 00 B2 80 EB 84 N.u.€~.€..Š.'€Ě,,
000000B0 55 32 E4 8A 56 00 CD 13 5D EB 9E 81 3E FE 7D 55 U2āŠV.Ī.|ěž.>p}U
000000C0 AA 75 6E FF 76 00 E8 8D 00 75 17 FA B0 D1 E6 64 ^unŷv.ě..u.ú°NĚd
000000D0 E8 83 00 B0 DF E6 60 E8 7C 00 B0 FF E6 64 E8 75 ěf.°8æ`ě|.°ŷædĕu
000000E0 00 FB B8 00 BB CD 1A 66 23 C0 75 3B 66 81 FB 54 .ŭ,..»Ī.f#Āu;f.ŮT
000000F0 43 50 41 75 32 81 F9 02 01 72 2C 66 68 07 BB 00 CPAu2.ŭ..r,fh.».
00000100 00 66 68 00 02 00 00 66 68 08 00 00 00 66 53 66 .fh....fh....fSf
00000110 53 66 55 66 68 00 00 00 66 68 00 7C 00 00 66 SfUfh....fh.|..f
00000120 61 68 00 00 07 CD 1A 5A 32 F6 EA 00 7C 00 00 CD ah...Ī.Z2ōĕ.|..Ī
00000130 18 A0 B7 07 EB 08 A0 B6 07 EB 03 A0 B5 07 32 E4 . .ĕ. 1.ĕ. ŷ.2ā
00000140 05 00 07 8B F0 AC 3C 00 74 09 BB 07 00 B4 0E CD ...<ō~<.t.»..'Ī
00000150 10 EB F2 F4 EB FD 2B C9 E4 64 EB 00 24 02 E0 F8 .ěōōĕŷ+Ěāĕĕ.$.āø
00000160 24 02 C3 49 6E 76 61 6C 69 64 20 70 61 72 74 69 $.ĀInvalid parti
00000170 74 69 6F 6E 20 74 61 62 6C 65 00 45 72 72 6F 72 tion table.Error
00000180 20 6C 6F 61 64 69 6E 67 20 6F 70 65 72 61 74 69 loading operati
00000190 6E 67 20 73 79 73 74 65 6D 00 4D 69 73 73 69 6E ng system.Missin
000001A0 67 20 6F 70 65 72 61 74 69 6E 67 20 73 79 73 74 g operating syst
000001B0 65 6D 00 00 00 63 7B 9A 63 37 37 A8 00 00 00 02 em...c{sc77"...
000001C0 03 00 07 C8 01 07 80 00 00 00 00 E8 01 00 00 00 ...Ē..€....ě....
000001D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
000001E0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
000001F0 00 00 00 00 00 00 00 00 00 00 00 00 55 AA .....U^
00000200 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ..... Sector 1

```

I opened the thumbdrive file with HxD. This will allow me to view the information in the file slack of the thumbdrive.

Step 2: Examine File Slack.

Next, I searched for the “C1dwIEQW-gc.jpg” file whose starting sector was at 25472. Because the information I am looking for is in the file slack, I needed to head to the end of the file.

Next, I copied the contents of the file slack.

HxD - [C:\Users\spygu\Downloads\inside_source_thumbdrive.001]

File Edit Search View Analysis Tools Window Help

16 Windows (ANSI) hex Sector 25636 of 131,073

inside_source_thumbdrive.001

Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	Decoded text
00C87C20	28	B5	F3	89	17	EC	08	B3	56	23	3E	87	2D	3F	91	08	{uó%.i.*V#>+~?'\.
00C87C30	31	3E	F1	9D	D7	00	46	72	41	39	08	88	EA	41	13	85	l>ã.×.FrA9."êA...
00C87C40	34	8E	37	CD	A3	C8	41	D2	60	1D	CC	D1	65	2B	32	CC	4Z7ÍsEAO`.iÑe+2I
00C87C50	64	A5	00	69	CD	91	01	87	3E	21	31	A2	6B	07	AB	8C	d¥.ií'\.#+!lck.«G
00C87C60	79	FF	20	31	49	86	6B	90	2E	67	44	18	D8	62	14	C3	yY lI+k...gD.Øb.Ã
00C87C70	58	26	0F	46	DD	27	17	42	FA	E4	63	48	15	E0	DA	2C	Xs.FY'.BûacH.àÜ,
00C87C80	A2	BB	DE	79	B6	33	C4	98	0C	F7	2E	88	13	B0	01	79	e»Pyq3Ã".÷.^°.y
00C87C90	59	9F	6A	DB	C5	34	13	58	D8	25	68	84	95	5A	B2	60	YÝjÜÄ4.X0%h.,*Z°`
00C87CA0	D2	FB	10	9E	70	85	5D	A1	D4	9E	66	D0	A6	E1	B5	22	Ôû.žp...;ÔžxÐ!âµ"
00C87CB0	14	4D	4A	46	0E	CE	26	02	59	EB	D0	46	8F	74	B9	5A	.MJF.îs.YêÐF.t°Z
00C87CC0	14	61	C2	3B	1F	52	34	21	93	7B	F1	6F	B1	39	B1	6E	.aÃ;.R4!"{ño±9±n
00C87CD0	35	39	4E	47	25	E9	9F	9A	AA	D7	B8	3A	44	8C	E3	F1	59NG%éYš*×. :DEãf
00C87CE0	48	3D	0E	3A	22	3A	C1	53	8D	6A	BC	28	59	08	24	D1	H=.:":ÁS.j¼(Y.ŠÑ
00C87CF0	15	4D	25	62	C4	C1	99	16	85	E5	10	A4	DC	33	29	3D	.M%bÃÄ™...ã.κÜ3)=
00C87D00	F3	DB	7E	24	E3	C3	0A	92	69	21	9B	3A	F0	88	16	7D	6Ü~\$ãÃ.'i!>:ð°.}
00C87D10	57	40	63	D8	3F	EB	F5	93	B4	D5	B5	18	7A	30	C6	30	W@c0?eð" `Ôµ.z0Æ0
00C87D20	D7	8C	C8	68	29	E9	A7	7F	C1	54	BB	D4	A5	16	98	95	×(Eñ)é\$.ÂT»Ö¥."*
00C87D30	D9	11	38	31	4C	23	E9	A1	4C	8F	AA	F3	1D	C0	81	6A	Ü.81L#é;L.*ó.À.j
00C87D40	21	63	41	AE	67	53	58	AB	4C	A0	01	B1	36	52	90	32	!cA0gSX«L .±6R.2
00C87D50	C4	50	3D	02	6D	4B	A3	15	BE	93	1E	FF	5A	E3	56	8F	ÄP=.mK£.¼".yZÄV.
00C87D60	B8	9A	C3	88	56	1B	6A	C2	7D	5D	90	B2	D5	C2	64	51	,sÃ~V.jÃ}}.°ÖÄdC
00C87D70	F1	43	4F	22	A4	D8	E2	E4	96	75	8D	37	52	29	B3	14	ñCO"κ0ää-u.7R)°.
00C87D80	F9	F8	EA	31	36	8E	55	18	4B	14	65	47	EF	66	3C	DA	høé16ŽÜ.K.eGif<Ü
00C87D90	55	B5	5E	D2	CB	6D	EC	7C	A5	94	62	25	B7	A2	AF	9B	Üµ^ÖEmi|¥"b%·c~>
00C87DA0	22	E2	6C	6C	A2	8D	C6	EB	4C	9E	6A	E2	B7	11	5C	46	"á11c.ÆELžjã.. \F
00C87DB0	4E	0E	DF	72	26	D5	1F	CE	C0	AA	E2	48	3F	68	51	65	N.8rsÖ.îÄ°âH?hQe
00C87DC0	5B	F0	40	13	6B	BC	13	29	6C	32	C2	CD	32	AA	E3	A8	[ð@.k¼.)12Äi2°ã"
00C87DD0	DC	79	E6	FA	A6	96	9A	D1	81	BA	2C	6D	45	67	14	7C	Üyæü!-šÑ.°,mEg.}
00C87DE0	4C	3D	9E	A3	56	F4	A0	D1	65	25	CD	66	88	59	73	AA	L=žžVó Nεíf~Ys°
00C87DF0	9C	D4	0B	A7	6D	4D	62	CE	ED	0A	05	04	00	3B	00	00	æÖ.ŠmMbîi....;..
00C87E00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00C87E10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00C87E20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....

Offset(h): C84800 Block(h): C84800-C87DFF Length(h): 3600 Overwrite

The File Slack was 27 sectors long, so I copied the contents all the way to sector 25663.

HxD - [Untitled1]

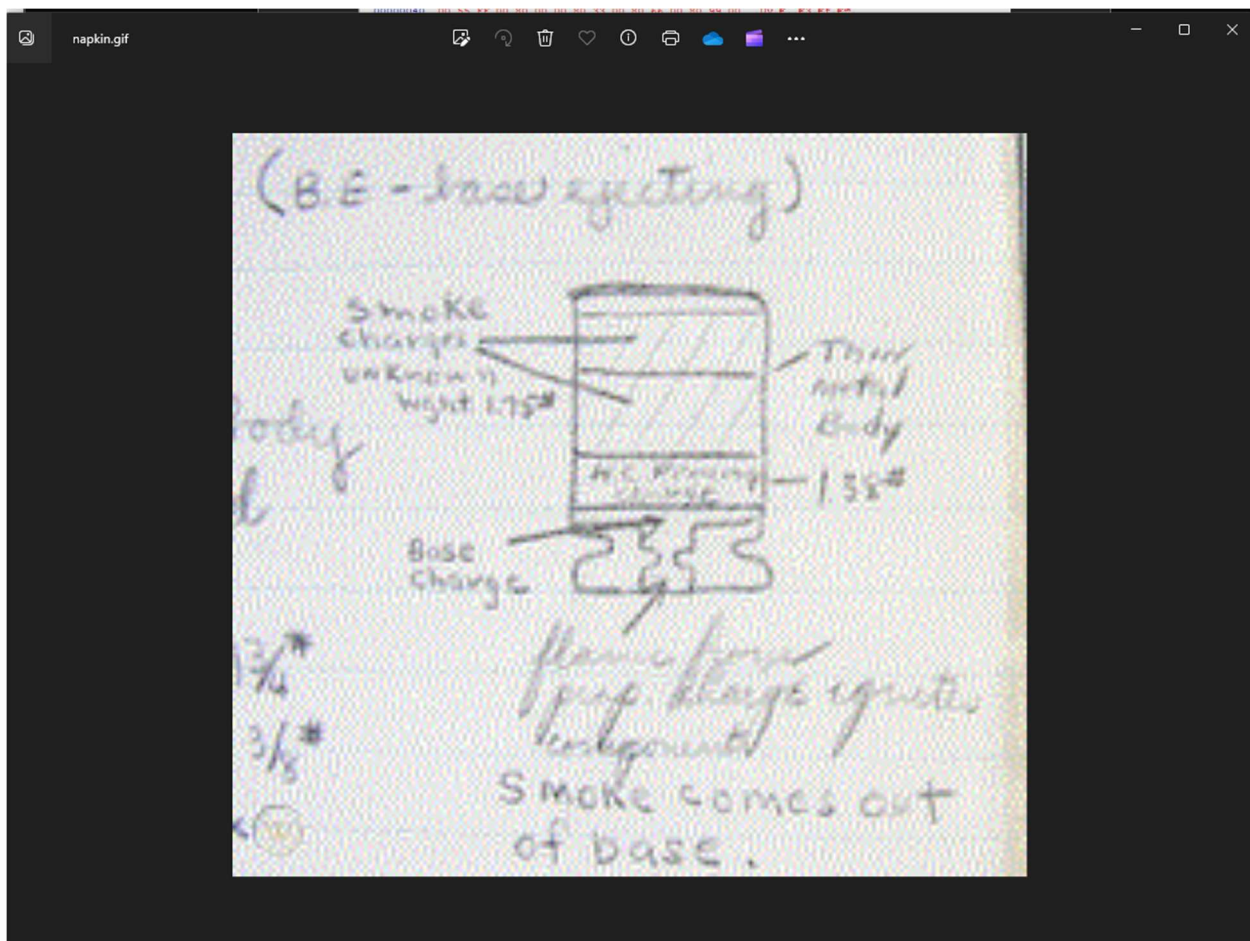
File Edit Search View Analysis Tools Window Help

16 Windows (ANSI) hex

inside_source_thumbdrive.001 Untitled1

Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	Decoded text
00000000	47	49	46	38	39	61	C8	00	BB	00	F7	00	00	00	00	00	GIF89aE.».+.
00000010	00	00	33	00	00	66	00	00	99	00	00	CC	00	00	FF	00	..3..f..™..î..ÿ.
00000020	2B	00	00	2B	33	00	2B	66	00	2B	99	00	2B	CC	00	2B	+..+3..+f..+™..+î..+
00000030	FF	00	55	00	00	55	33	00	55	66	00	55	99	00	55	CC	ÿ.U..U3.Uf.U™.Ui
00000040	00	55	FF	00	80	00	00	80	33	00	80	66	00	80	99	00	.Uÿ.e..e3.ef.e™.
00000050	80	CC	00	80	FF	00	AA	00	00	AA	33	00	AA	66	00	AA	ei.eÿ..*..*3..*f..*
00000060	99	00	AA	CC	00	AA	FF	00	D5	00	00	D5	33	00	D5	66	™..*î..*ÿ.ô..ô3.ôf
00000070	00	D5	99	00	D5	CC	00	D5	FF	00	FF	00	00	FF	33	00	.ô™..ôî.ôÿ.ÿ..ÿ3.
00000080	FF	66	00	FF	99	00	FF	CC	00	FF	FF	33	00	00	33	00	ÿf.ÿ™..ÿî..ÿÿ3..3.
00000090	33	33	00	66	33	00	99	33	00	CC	33	00	FF	33	2B	00	33.f3.™3.î3.ÿ3+.
000000A0	33	2B	33	33	2B	66	33	2B	99	33	2B	CC	33	2B	FF	33	3+33+f3+™3+î3+ÿ3
000000B0	55	00	33	55	33	33	55	66	33	55	99	33	55	CC	33	55	U.3U33Uf3U™3Ui3U
000000C0	FF	33	80	00	33	80	33	33	80	66	33	80	99	33	80	CC	ÿ3e.3e33ef3e™3ei
000000D0	33	80	FF	33	AA	00	33	AA	33	33	AA	66	33	AA	99	33	3eÿ3*.3*33*f3*™3
000000E0	AA	CC	33	AA	FF	33	D5	00	33	D5	33	33	D5	66	33	D5	*î3*ÿ3ô.3ô33ôf3ô
000000F0	99	33	D5	CC	33	D5	FF	33	FF	00	33	FF	33	33	FF	66	™3ôî3ôÿ3ÿ.3ÿ33ÿf
00000100	33	FF	99	33	FF	CC	33	FF	FF	66	00	00	66	00	33	66	3ÿ™3ÿî3ÿÿf..f.3f
00000110	00	66	66	00	99	66	00	CC	66	00	FF	66	2B	00	66	2B	.ff.™f.îf.ÿf+.f+
00000120	33	66	2B	66	66	2B	99	66	2B	CC	66	2B	FF	66	55	00	3f+ff+™f+îf+ÿfU.
00000130	66	55	33	66	55	66	66	55	99	66	55	CC	66	55	FF	66	fU3fUffU™fUiUÿf
00000140	80	00	66	80	33	66	80	66	66	80	99	66	80	CC	66	80	e.fe3feffe™feife
00000150	FF	66	AA	00	66	AA	33	66	AA	66	66	AA	99	66	AA	CC	ÿf*.f*3f*ff*™f*î
00000160	66	AA	FF	66	D5	00	66	D5	33	66	D5	66	66	D5	99	66	f*ÿfô.fô3fôffô™f
00000170	D5	CC	66	D5	FF	66	FF	00	66	FF	33	66	FF	66	66	FF	ôîfôÿÿÿ.fÿ3fÿÿÿ
00000180	99	66	FF	CC	66	FF	FF	99	00	00	99	00	33	99	00	66	™ÿÿÿÿÿÿ™..™.3™.f
00000190	99	00	99	99	00	CC	99	00	FF	99	2B	00	99	2B	33	99	™.™™.î™.ÿ™+.™+3™
000001A0	2B	66	99	2B	99	99	2B	CC	99	2B	FF	99	55	00	99	55	+f™+.™™+.î™+ÿ™U.™U
000001B0	33	99	55	66	99	55	99	99	55	CC	99	55	FF	99	80	00	3™Uf™U™™Uî™Uÿ™e.
000001C0	99	80	33	99	80	66	99	80	99	99	80	CC	99	80	FF	99	™e3™ef™e™™eî™eÿ™
000001D0	AA	00	99	AA	33	99	AA	66	99	AA	99	99	AA	CC	99	AA	a..™+3™+f™+™™+î™+
000001E0	FF	99	D5	00	99	D5	33	99	D5	66	99	D5	99	99	D5	CC	ÿ™ô.™ô3™ôf™ô™™ôî
000001F0	99	D5	FF	99	FF	00	99	FF	33	99	FF	66	99	FF	99	99	™ôÿ™ÿ.™ÿ3™ÿf™ÿ™™
00000200	FF	CC	66	FF	FF	CC	00	00	CC	00	33	CC	00	66	CC	00	u™™™™™™™™™™™™

I then pasted the contents onto a new file.



After saving the new file as a gif, I was able to open the file and view the original contents that were not overwritten by the image file.

Next, I located the next image file on the thumb drive.

HxD - [C:\Users\spygu\Downloads\inside_source_thumbdrive.001]

File Edit Search View Analysis Tools Window Help

16 Windows (ANSI) hex |< < > >| Sector 30129 of 131,073

inside_source_thumbdrive.001

Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	Decoded text
00EB60E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB60F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6100	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6110	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6120	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6130	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6140	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6150	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6160	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6170	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6180	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6190	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB61A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB61B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB61C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB61D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB61E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB61F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6200	56	47	68	6C	49	48	52	68	63	6D	64	6C	64	43	42	70	VGhlIHRhcmdldCBp
00EB6210	63	79	42	30	61	47	55	67	51	57	78	68	62	57	38	75	cyB0aGUgQWxhbW8u
00EB6220	49	43	42	4A	64	43	42	33	61	57	78	73	49	47	4A	6C	ICBJdCB3aWxsIGU1
00EB6230	49	48	42	73	59	57	4E	6C	5A	43	42	68	62	6D	51	67	IHBsYWN1ZCBhbmQg
00EB6240	5A	47	56	30	62	32	35	68	64	47	56	6B	49	47	39	75	ZGV0b25hdGVkIG9u
00EB6250	49	45	39	6A	64	47	39	69	5A	58	49	67	4E	48	52	6F	IE9jdG9iZXIgaHRo
00EB6260	49	47	46	30	49	45	35	76	62	32	34	67	49	41	3D	3D	IGF0IESvb24gIA==
00EB6270	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6280	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB6290	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB62A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB62B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB62C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB62D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB62E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
00EB62F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....

Offset(h): EB6200 Block(h): EB6200-EB626F Length(h): 70 Overwrite

The file's starting sector was 29536 and the file was 593 sectors long, therefore I searched for the file slack at sector 30129.


```
HxD - [Untitled2]
File Edit Search View Analysis Tools Window Help
16 Windows (ANSI) hex
inside_source_thumbdrive.001 Untitled2
Offset(h) 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F Decoded text
00000000 56 47 68 6C 49 48 52 68 63 6D 64 6C 64 43 42 70 VGhlIHRhcmdldCBp
00000010 63 79 42 30 61 47 55 67 51 57 78 68 62 57 38 75 cyB0aGUgQWxhbW8u
00000020 49 43 42 4A 64 43 42 33 61 57 78 73 49 47 4A 6C ICBJdCB3aWxsIGJl
00000030 49 48 42 73 59 57 4E 6C 5A 43 42 68 62 6D 51 67 IHBsYWNlZCBhbmQg
00000040 5A 47 56 30 62 32 35 68 64 47 56 6B 49 47 39 75 ZGV0b25hdGVkIG9u
00000050 49 45 39 6A 64 47 39 69 5A 58 49 67 4E 48 52 6F IE9jdG9iZXIgaHRo
00000060 49 47 46 30 49 45 35 76 62 32 34 67 49 41 3D 3D IGF0IE5vb24gIA==
```

I extracted the contents of the file "slack", but it appears to be encoded in Base64. This is evident because the standard output translation to the right of the hex values seems to be encoded. Base64-encoded data often ends with "=" as seen in the translation.

BASE64

Decode and Encode

Decode Encode

Language: English Español Português Français Deutsch 中文 हिन्दी Русский 한국어

Do you have to deal with Base64 format? Then this site is perfect for you! Use our super handy online tool to encode or decode your data.

Decode from Base64 format

Simply enter your data then push the decode button.

VGhlIHRhcmdldCBpcyB0aGUgQWxhbW8uICBJdCB3aWxsIGJlIHBsYWNlZCBhbmQgZGV0b25hdGVkIG9uIE9jdG9iZXIgaHRoIGF0IE5vb24gIA==

For encoded binaries (like images, documents, etc.) use the file upload form a little further down on this page.

UTF-8 Source character set.

☐ Decode each line separately (useful for when you have multiple entries).

☒ Live mode OFF Decodes in real-time as you type or paste (supports only the UTF-8 character set).

< DECODE > Decodes your data into the area below.

The target is the Alamo. It will be placed and detonated on October 4th at Noon

★ Bonus tip: Bookmark us!

I then copied the encoded data and pasted it onto a Base64 decoder. Upon decoding, the data read "The target is the Alamo. It will be placed and detonated on October 4th at Noon."

Next, I needed to find the phone number hidden in the file slack of one of the following files.

Filename	Size in Bytes	Starting Sector
Y81_LvzzDrM.jpg	339240	12864
Y-ZPu23vE_Q.jpg	384768	13536
1jj7wpZKf_A.jpg	581183	14304
7dyp4OxAluM.jpg	799824	18528
cL3hhw4OI5k.jpg	634656	26368
fG64rnKIryM.jpg	734890	30144
koYuRh-jE6U.jpg	583666	35200
OGJU0rK2i_4.jpg	603879	58048
Pyut03Gn98w.jpg	312794	62624
Q8XWnPkOsKs.jpg	636847	63264

Size in Bytes	Starting Sector	Required Sectors	Expected Ending Sector
339240	12864	663	13527
384768	13536	752	14288
581183	14304	1135	15439
799824	18528	1562	20090
634656	26368	1240	27608
734890	30144	1435	31579
583666	35200	1140	36340
603879	58048	1179	59227
312794	62624	611	63235
636847	63264	1244	64508

I created the following Excel table to determine the ending sector address for the image files. I calculated this by dividing the size of the file in bytes by 512 bytes (the standard size of a sector) to determine the required number of sectors for the file. I rounded these values up to the nearest whole number, reflecting the allocation practice of most file systems. The slack space within the final sector occupied by the file includes any remaining data, and the file slack refers to the space from the end of the file to the end of the last cluster allocated to it.

After determining the expected ending sector address for each of the files, I went file by file to determine which file may hold the information I am looking for.

HxD - [C:\Users\spygu\Downloads\inside_source_thumbdrive.001]

File Edit Search View Analysis Tools Window Help

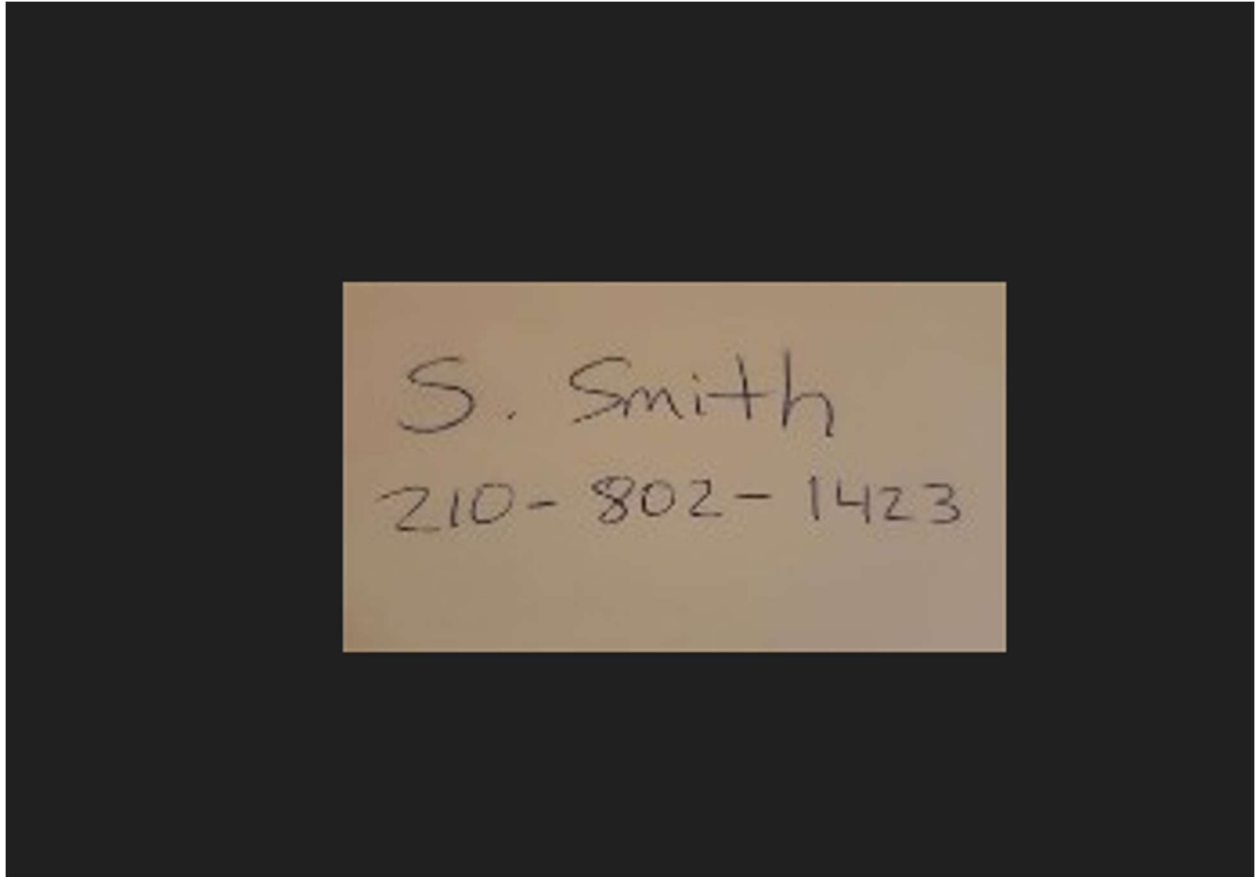
16 Windows (ANSI) hex 63235 of 131,073

inside_source_thumbdrive.001 try9.jpg

Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	Decoded text
01EE0480	3E	4E	C3	CA	7C	B3	E2	7C	0F	D9	84	47	B7	57	28	77	>NÄÊ|'â|.Ü„G-W(w
01EE0490	6A	AE	05	AE	11	A7	C2	B8	EE	A5	E9	36	3E	5F	0C	67	j0.0.SÄ,ivé6> .g
01EE04A0	63	FE	A8	E1	2D	5C	C3	5C	21	AE	78	83	4C	45	22	63	cp"á-Ä\!0xfLE"c
01EE04B0	DF	47	87	DD	15	9F	66	D1	94	93	B9	EC	BE	EC	89	99	8G+Y.YrN""i4itw
01EE04C0	D1	2E	C8	75	44	A7	D8	E5	13	2E	05	96	85	96	85	76	N.EuDS0Ä...-...v
01EE04D0	76	34	8E	0D	B3	6F	A2	5E	CD	F0	47	B6	34	7A	7D	99	v4Z..°oc^i0G4z)"
01EE04E0	15	89	12	91	28	98	37	0C	5A	1D	DC	A1	BC	22	32	66	.h.'(^7.Z.Ü;4"2f
01EE04F0	C7	67	D8	89	94	71	D1	89	CA	38	63	44	E0	9C	09	E4	Çg0w"qNêEcDæ.ä
01EE0500	6B	EE	7C	04	CB	AD	F0	7C	34	8F	2D	F2	45	E9	DC	0B	ki|.E.8|4.-0EéÜ.
01EE0510	34	AE	E4	DA	AE	CD	55	53	1E	DB	E1	B1	DD	CB	E1	B1	40aÜ;ÍUS.Ü±YÉ±
01EE0520	A1	F2	FB	8C	CA	83	F8	3C	6B	5D	12	DB	E0	49	67	63	j0üGEfæck|.ÜâIgc
01EE0530	B4	40	ED	92	20	4E	7E	88	89	22	72	3C	7D	09	9C	31	'@i' N~"w"r< .œl
01EE0540	DF	EA	8F	66	D5	0A	C2	C4	A1	1B	68	79	68	79	68	77	âe.f0.ÄÄ;.hyhyhw
01EE0550	6C	9B	B6	F4	2C	89	74	8F	64	7B	EC	4B	4D	B2	49	B3	1>g0,wt.d(iRM'I'
01EE0560	39	1B	77	23	81	BF	65	15	39	62	A7	08	7A	16	D8	EF	9.w#.je.9bS.z.0i
01EE0570	F5	43	B2	9F	D3	89	47	03	59	15	51	D1	AC	90	22	6D	0C'Y0wG.Y.QN~."m
01EE0580	02	4D	CF	64	44	7A	47	B7	D3	55	B7	A3	49	21	F3	C9	.MídDzG-ÜÜ-£I!0é
01EE0590	17	F5	1B	F5	0F	23	C8	F2	54	65	14	F6	2A	CD	FA	62	.0.0.#E0Te.0*Íúb
01EE05A0	60	B1	17	2E	D3	25	BE	8A	7A	E4	C2	E9	53	DA	15	95	'±..0*§zâÄéSÜ..
01EE05B0	85	79	5B	2A	BB	65	5C	31	8F	4C	AB	09	8C	52	FA	73	...y[*æ\l.Læ.GRús
01EE05C0	E4	4C	51	71	AC	11	83	D2	61	32	C3	62	26	15	8C	C8	âLQq-.f0a2âbæ.GE
01EE05D0	96	5E	E4	59	48	CB	6F	A7	FF	D9	00	00	00	00	00	00	-^âYHÉoSyÜ.....
01EE05E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
01EE05F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	.....
01EE0600	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	..... Sector 63,235
01EE0610	FF	D8	FF	E0	00	10	4A	46	49	46	00	01	01	01	00	60	y0yâ..JFIF.....`
01EE0620	00	60	00	00	FF	DB	00	43	00	03	02	02	03	02	02	03	..yÜ.C.....
01EE0630	03	03	03	04	03	03	04	05	08	05	05	04	04	05	0A	07	.....
01EE0640	07	06	08	0C	0A	0C	0C	0B	0A	0B	0B	0D	0E	12	10	0D	.....
01EE0650	0E	11	0E	0B	08	10	16	10	11	13	14	15	15	15	0C	0F	.....
01EE0660	17	18	16	14	18	12	14	15	14	FF	DB	00	43	01	03	04	.....yÜ.C...
01EE0670	04	05	04	05	09	05	05	09	14	0D	0B	0D	14	14	14	14	.....
01EE0680	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	.....
01EE0690	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	.....
01EE06A0	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	.....yÄ
01EE06B0	00	11	08	00	67	00	B8	03	01	22	00	02	11	01	03	11	....g...".
01EE06C0	01	FF	C4	00	1F	00	00	01	05	01	01	01	01	01	01	00	..yÄ.....
01EE06D0	00	00	00	00	00	00	00	01	02	03	04	05	06	07	08	09	.....
01EE06E0	0A	0B	FF	C4	00	B5	10	00	02	01	03	03	02	04	03	05	..yÄ.u.....
01EE06F0	05	04	04	00	00	01	7D	01	02	03	00	04	11	05	12	21!
01EE0700	31	41	06	13	51	61	07	22	71	14	32	81	91	A1	08	23	1A..Qa."q.2.'i.#
01EE0710	42	B1	C1	15	52	D1	F0	24	33	62	72	82	09	0A	16	17	B±Ä.RN0\$3br,...
01EE0720	18	19	1A	25	26	27	28	29	2A	34	35	36	37	38	39	3A	...%&'()*456789:
01EE0730	43	44	45	46	47	48	49	4A	53	54	55	56	57	58	59	5A	CDEFGHIJSTUVWXYZ
01EE0740	63	64	65	66	67	68	69	6A	73	74	75	76	77	78	79	7A	cdefghijklstuvwxyz
01EE0750	83	84	85	86	87	88	89	8A	92	93	94	95	96	97	98	99	f.....t+`tS'""-""
01EE0760	9A	A2	A3	A4	A5	A6	A7	A8	A9	AA	B2	B3	B4	B5	B6	B7	šc&wY!S'@+~'µq.
01EE0770	B8	B9	BA	C2	C3	C4	C5	C6	C7	C8	C9	CA	D2	D3	D4	D5	,'°ÄÄÄÄÄÇÈÈÈÖÖÖÖ
01EE0780	D6	D7	D8	D9	EA	E1	E2	E3	E4	E5	E6	E7	E8	E9	EA	F1	Ö×ÖÜÜÄÄÄÄÄÇÈÈÈñ
01EE0790	F2	F3	F4	F5	F6	F7	F8	F9	FA	FF	C4	00	1F	01	00	03	ööööö+öüüyÄ.....
01EE07A0	01	01	01	01	01	01	01	01	01	01	00	00	00	00	00	00	.....
01EE07B0	02	03	04	05	06	07	08	09	0A	0B	FF	C4	00	B5	11	00	.....yÄ.u...
01EE07C0	02	01	02	04	03	04	07	05	04	04	00	01	02	77	00	00	.....w.
01EE07D0	01	02	03	11	04	05	21	31	06	12	41	51	07	61	71	13	.....!l..AQ.aq.
01EE07E0	22	32	81	08	14	42	91	A1	B1	C1	09	23	33	52	F0	15	"2...B`i;±Ä.#3R0.

Offset(h): 1EE062C Overwrite

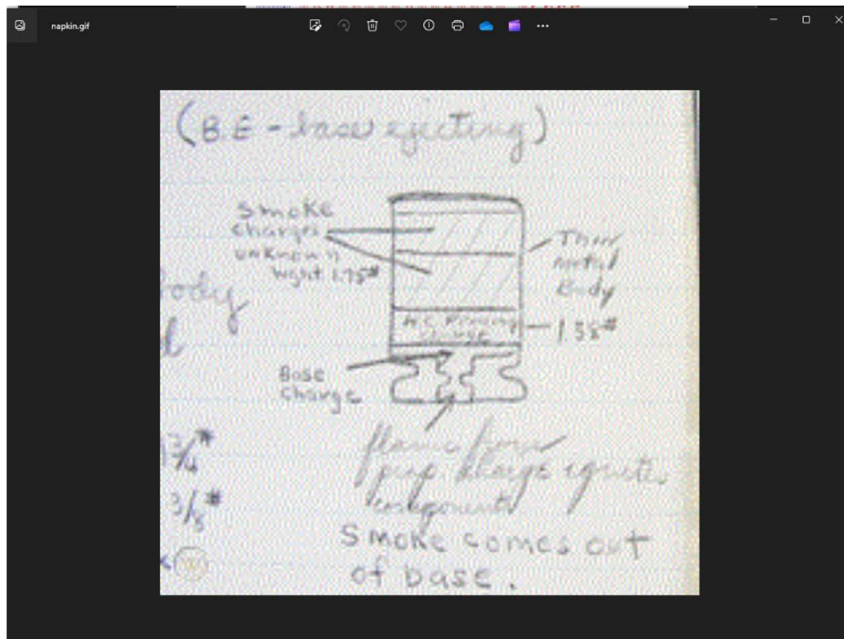
After going file by file, I found that there was an image file within the file slack of "Pyut03Gn98w.jpg".



I saved the file as a jpg and opened the image. The image was of a name and phone number, "S. Smith" and "210-802-1423".

Therefore, I successfully found the name and phone number hidden within the file slack.

Step 3: Extracted Information.



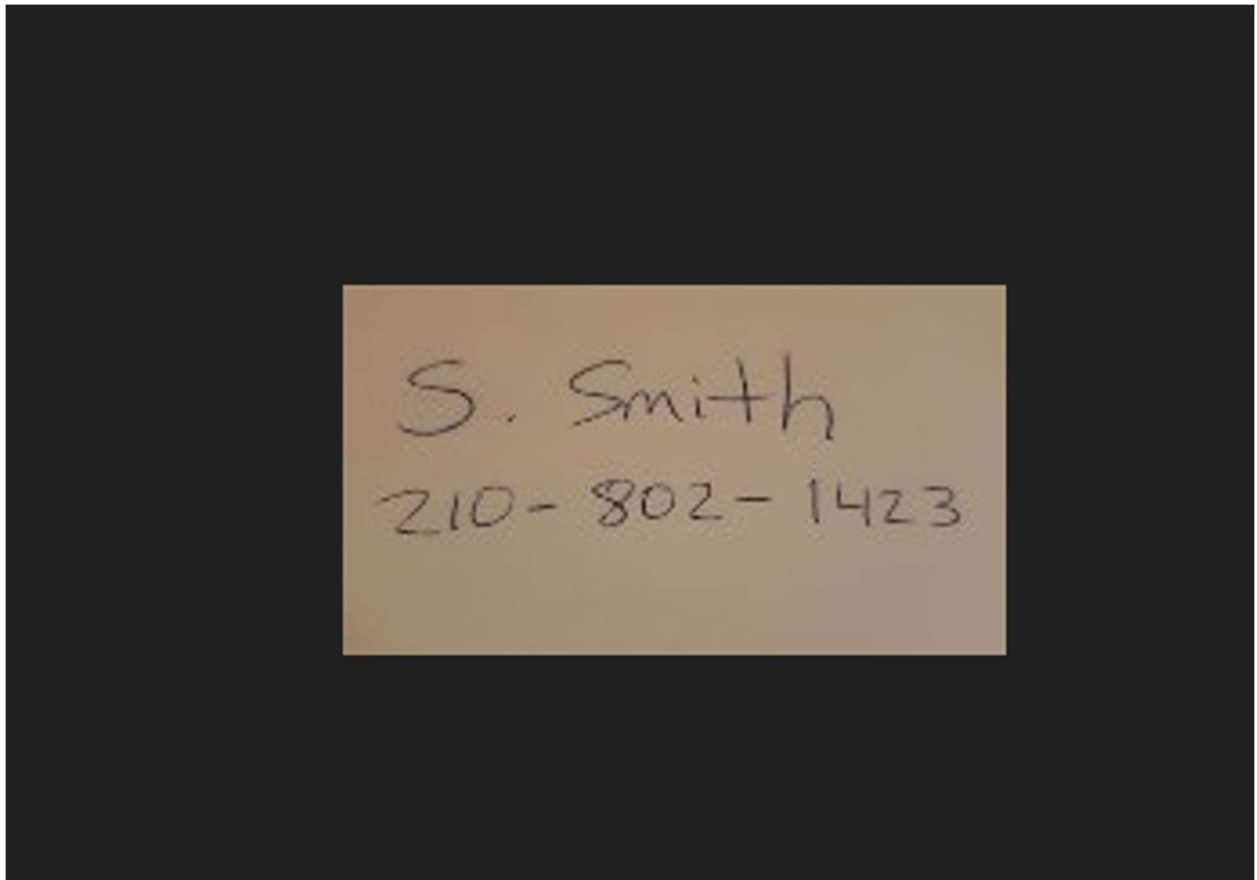
By extracting the gif file hidden in the thumb drive's file slack, I was able to extract the image of the bomb which was drawn on a napkin.

< **DECODE** >

Decodes your data into the area below.

The target is the Alamo. It will be placed and detonated on October 4th at Noon

By decoding the base64 data, I was able to determine that the bomb was to be placed and detonated at the Alamo on October 4th.



I successfully located the name and phone number hidden within the file slack.

LIMITATIONS/CONCLUSION

I successfully found the information hidden within the file slack of the image files on the thumb drive.

REFERENCES

"Base64 Decode and Encode - Online." base64decode.org, 2024. <https://www.base64decode.org/>.

I used this website to decode the Base64 encrypted data.