

Digital Forensics - Lab 6

Class No :	CH2021221000516	Slot :	L49 + L50
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- 9 September 2021

Question 1 :

For the following file extensions identify the type of files e.g. image file, audio file, text file etc. and include a brief description. Neatly classify them.

Extension	File Type	Description
Jpg	Image	JPEG Image, used for storing digital photos and used by most digital cameras to save images.
Jpeg	Image	JPEG Image, used for storing digital photos and web graphics. A JPEG file is an image saved in a compressed graphic format standardized by the Joint Photographic Experts Group.
png	Image	Portable Network Graphic, used to store web graphics, digital photographs, and images with transparent backgrounds.
gif	Image	Graphical Interchange Format File, It may contain up to 256 indexed colors with a color palette that may be a predefined set of colors or may be adapted to the colors in the image. GIF files are saved in a lossless format, meaning the clarity of the image is not compromised with GIF compression.

Extension	File Type	Description
tif	Image	Tagged Image File, A TIF file contains an image saved in the Tagged Image File Format (TIFF), a high-quality graphics format. It is often used for storing images with many colors, typically digital photos, and includes support for layers and multiple pages.
tiff	Image	Tagged Image File Format, A TIFF file is a graphics container that stores raster images in the Tagged Image File Format (TIFF). It contains high-quality graphics that support color depths from 1 to 24-bit and supports both lossy and lossless compression. TIFF files also support multiple layers and pages.
bmp	Image	Bitmap Image, A BMP file is an image saved in the Bitmap (BMP) raster image format developed by Microsoft. It contains uncompressed image data that supports monochrome and color images at variable color bit depths, along with image metadata. BMP files are commonly used for storing 2D digital photos.
art	CAD (Binary)	ArtCAM Model, CAD model created by ArtCAM, a CNC (computer numerical control) program used for artistic design and manufacturing; saves a 2D or 3D model as well as instructions for a machine to cut or engrave the design; used for signs, woodworking, engraving, and jewelry.
pcx	Image	Paintbrush Bitmap Image File, Raster image format developed by ZSoft; became one of the original bitmap image formats for the DOS/Windows platform; supports 24-bit color images, 8-bit grayscale and indexed color images, and 1-bit black and white images; compressed using RLE encoding.

Extension	File Type	Description
wmf	Binary	Windows Metafile, A WMF file is a vector graphic saved in the proprietary Windows Metafile Format (WMF) format developed by Microsoft. It contains a series of metafile records that store drawing operations, which include commands for drawing lines, circles, and rectangles that make up the graphic. WMF files also support bitmap drawing operations.
emf	Image	Enhanced Windows Metafile, An EMF file is a vector graphic saved in the Enhanced Windows Metafile (EMF) format, an improved version of the Windows Metafile Format (.WMF). It stores 32-bit RGB image data in a series of records that are rendered on a display or output to a printer when processed.
dwg	CAD (Binary)	The dwg (drawing) file format is a proprietary format used to store two or three dimensional data with any other metadata.
psd	Image	Adobe Photoshop Document, A PSD file is an image file created by Adobe Photoshop, a professional image-editing program used to enhance digital photos and create web graphics. It is the native format used to save files in Photoshop. PSD files may include image layers, adjustment layers, layer masks, annotations, file information, keywords, and other Photoshop-specific elements. They are commonly created and shared among graphics professionals.
rtf	Text	Rich Text Format File, An RTF file is a text document that includes rich text. Rich text documents can include a variety of text formatting, including bolding, italicization, custom fonts, and custom colors. RTF documents can also contain images, such as .JPG and .PNG files, embedded within their text.

Extension	File Type	Description
xml	Data (XML)	XML File, An XML file is an XML (Extensible Markup Language) data file. It contains a formatted dataset that is intended to be processed by a website, web application, or software program. XML files can be thought of as text-based databases.
html	Text	The html file extension is mainly related to the Hypertext Markup Language that provides means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It is the main language for writing web pages. HTML formats texts, tables, images, and other content that will be displayed on the page that can be viewed using any web browser.
htm	Text	<p>The htm file extension is associated with Hypertext Markup Language. The HTML language provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. Its the main language for writing web pages.</p> <p>The htm files are sometimes used on DOS-based computers, which can not understand extension with more than 3 characters. But the .htm files are the same as files with the HTML file extension.</p>
php3	Text	<p>The php3 file extension is related to PHP, a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML.</p> <p>The php3 file contains PHP script, source code file, or page written in version 3.</p>
php4	Text	The php4 file extension is related to the HTML page with PHP (HyperText PreProcessor). PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML.

Extension	File Type	Description
phtml	Text	<p>The phtml file extension is used for HTML pages that also include a PHP scripts. However it is the same source code format as the PHP page with the php file extension.</p> <p>PHTML web pages are also supported by various web browsers, such as Internet Explorer, Firefox, Opera, Chrome etc. File is stored in simple text format and can be viewed in text editor, or PHP source code editor.</p>
shtml	Text	<p>Server Side Include HTML File, An SHTML file is a webpage written in HTML that contains server-side includes. It is processed (or parsed) by a web server before being sent to a user's browser.</p> <p>SHTML files can reference other files on the server.</p>
eml	Text	<p>E-Mail Message, An EML file is an email message saved by an email application, such as Microsoft Outlook or Apple Mail. It contains the content of the message, along with the subject, sender, recipient(s), and date of the message. EML files may also store one or more email attachments, which are files sent with the message.</p>
dbx	Binary	<p>The dbx file extension is mainly related to the Microsoft Outlook Express, an e-mail and news client included in earlier releases of Microsoft Internet Explorer.</p> <p>The dbx files are used for storing users messages that Outlook Express saves in a folder on your computer. To find this folder, open outlook express and select the maintenance option.</p>
pst	Binary	<p>Outlook Personal Information Store File, A PST file is a data storage file that contains personal information used by Microsoft Outlook and Exchange. It may also include e-mail folders, contacts, addresses, and other data.</p>

Extension	File Type	Description
xls	Binary	Microsoft Excel Spreadsheet (Legacy), An XLS file is a spreadsheet file created by Microsoft Excel or exported by another spreadsheet program, such as OpenOffice Calc or Apple Numbers. It contains one or more worksheets, which store and display data in a table format. XLS files may also store mathematical functions, charts, styles, and formatting.
doc	Binary (Text)	<p>The doc file extension is associated with Microsoft Word, a powerful word processor program from Microsoft and part of Microsoft Office.</p> <p>The doc files was traditionally used by Microsoft Word for its document files prior version 2007. Above versions of MS Word use docx file extension instead.</p> <p>The doc files are in the word binary file format, which is a collection of records and structures that specify text, tables, fields, pictures, embedded XML markup, and other document content.</p>
docx	Binary (Text)	<p>The docx file extension is best known for its use in Microsoft Word, a powerful word processor and authoring program that gives users the ability to create and share documents, which is available as part of Microsoft Office and Office 365 subscription based service.</p>
dot	Binary (Text)	<p>The dot file extension is associated with Microsoft Word, a powerful authoring program that gives you the ability to create and share documents by combining a comprehensive set of writing tools with the easy-to-use Microsoft Office Fluent user interface, which is part of Microsoft Office.</p> <p>The dot files are used in Microsoft Word 97 to 2003 for document template files.</p>

Extension	File Type	Description
ppt	Binary	Microsoft PowerPoint Presentation (Legacy), A PPT file is an editable slide show created by Microsoft PowerPoint or exported by another presentation program, such as OpenOffice Impress or Apple Keynote. It may include formatted text, bullet points, images, movies, sound effects, and music. PPT files are commonly built from one of many templates included with the PowerPoint software, but may also be created from scratch.
pps	Binary	Microsoft PowerPoint Slide Show (Legacy), A PPS file is a slide show created by Microsoft PowerPoint, a popular program included with Microsoft Office for creating presentations. It is saved as a completed slide show, which can be viewed by PowerPoint, OpenOffice, and several other presentation programs. PPS files are similar to .PPT files but open as a slide show when double-clicked.
pdf	Binary	Portable Document Format File, A PDF file is a multi-platform document created by Adobe Acrobat or another PDF application. The PDF format is commonly used for saving documents and publications in a standard format that can be viewed on multiple platforms. In many cases, PDF files are created from existing documents instead of from scratch.
zip	Compressed (Binary)	Zipped File, A ZIP file is an archive that contains one or more files compressed or "zipped" with Zip compression. It stores files separately from each other, allowing the files to be compressed using different methods and extracted without compressing or decompressing the entire archive.

Extension	File Type	Description
rar	Compressed (Binary)	WinRAR Compressed Archive, A RAR file is an archive that contains one or more files compressed with RAR compression. It is compressed with a higher compression ratio than typical ZIP compression and incorporates a proprietary compression algorithm utilized by other compressors, including 7-Zip for its .7Z files. Since RAR archives store files in a reduced size, they are often utilized to transfer or store files.
gz	Compressed (Binary)	Gnu Zipped Archive, A GZ file is an archive file compressed by the standard GNU zip (gzip) compression algorithm. It contains a compressed collection of one or more files and is commonly used on Unix operating systems for file compression.
bz2	Compressed (Binary)	Bzip2 Compressed File, Compressed archive created by bzip2, a file compression program often found on Unix-based systems; incorporates the Burrows-Wheeler compression algorithm as well as Run-Length Encoding (RLE) for high levels of compression; often used for Linux software package distributions.
arj	Compressed (Binary)	<p>The arj file extension is used for native archive format of ARJ archiver program, a tool for creating compressed file archives. It was invented by Robert K. Jung. ARJ stands for Archived by Robert Jung.</p> <p>ARJ compresses files into a disk space saving archive. It is fast, reliable, and has a rich set of features which include Windows 9x, Millennium long file name support, file version management, data damage protection, ANSI escape sequence display handler, configurable command options, multiple volume archives (archives that span diskettes) and much more.</p>

Extension	File Type	Description
wav	Audio	WAVE Audio File, A WAV file is an audio file saved in the WAVE format, a standard digital audio file format utilized for storing waveform data. WAV files may contain audio recordings with different sampling rates and bitrates but are often saved in a 44.1 kHz, 16-bit, stereo format, which is the standard format used for CD audio.
avi	Video	Audio Video Interleave File, An AVI file is a video file saved in the Audio Video Interleave (AVI) multimedia container format created by Microsoft. It stores video and audio data that may be encoded in various codecs, including DivX and XviD.
ram	Audio	Real Audio Metadata File, Link file used by RealPlayer, a program used for streaming Internet audio and video; saved in plain text and contains a hyperlink to a corresponding .RA file, which can be streamed; includes a "pnm" or "rtsp" URL, which are the protocols used to access and play RealAudio data.
rm	Video	RealMedia File, An RM file is a multimedia file saved in the RealMedia multimedia container format developed by RealNetworks. It may store only audio in the RealAudio format, only video in the RealVideo format, or both RealAudio and RealVideo. RM files are commonly used for streaming content over the Internet such as video and Internet radio.
mpg	Video	MPEG Video File, An MPG file is a common video file that uses a digital video format standardized by the Moving Picture Experts Group (MPEG). It stores video, audio, and metadata interleaved together. MPG files are often used for creating movies that are distributed on the Internet. More Information

Extension	File Type	Description
mpeg	Video	MPEG Video, An MPEG file is a video file that uses a digital video format standardized by the Moving Picture Experts Group (MPEG). It contains video and audio that are compressed using MPEG-1 or MPEG-2 compression. MPEG files are typically used to share videos over the Internet.
mov	Video	Apple QuickTime Movie, A MOV file is a movie file saved in the QuickTime File Format (QTFF), which is a multimedia container file format. It stores one or more tracks that store different types of media data, such as video, audio, and text (subtitles). MOV files are commonly used for saving movies and other video files.
asf	Video	Advanced Systems Format File, An ASF file is a media file stored in the Advanced Systems Format (ASF), a proprietary video and audio container format. It may store only audio data, or video and audio data, along with optional metadata, such as title, author, and copyright bibliographic data. ASF files are developed by Microsoft primarily for streaming media online.
mid	Audio	File extension mid is commonly used for MIDI audio files. Musical Instrument Digital Interface (MIDI) is a standard protocol for the interchange of musical information between musical instruments, synthesizers, and computers.

CONCLUSION

In this lab experiments, we have dealt with and seen file extensions in general and also have seen many extensions in detail which will prove to be useful in case of forensic analysis.