**CPR101 -Activity3  
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**Part A: File Compression (50%):**

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| --- | --- | --- | --- | --- |
| **File Name & Type** | **Original Size** | **Name & Version of Compression Software Used** | **Size After Compression** | **Compression Ratio** |
| document**.pdf** | 224 KB | 7-Zip 23.01 (64x) | 198 KB | 0.884 |
| image**.jpeg** | 158 KB | 7-Zip 23.01 (64x) | 91.4KB | 0.578 |
| song**.mp3** | 7.18 MB | 7-Zip 23.01 (64x) | 7.17 MB | 0.999 |
| movie**.mp4** | 15.6 MB | 7-Zip 23.01 (64x) | 15.5 MB | 0.994 |
| word**.docx** | 23.7 KB | 7-Zip 23.01 (64x) | 18.9 KB | 0.797 |

**Part B: Backup Strategy (50%):**

Backup Frequency:

* Scheduled automatically for end of day.

Backup Locations:

* On-site local external hard drive.
* On-site local external USB Flash Drive.
* In the Cloud via AWS, Microsoft Azure or another cloud storage solution.

Redundancy:

* To avoid redundancy, backup files can be compressed into smaller files to save space and transfer times.
* Data deduplication and Single-instance storage can help optimize storage and eliminate duplicate copies of data within and across systems.

Disaster Recovery:

* To avoid disasters, I will implement the 3-2-1 backup strategy of keeping 3 copies, with 2 different formats/platforms, with 1 off-site backup.

Verification:

* The backups can be password encrypted so that only I can access them.

Reflection:

* Backup strategies are crucial for any business or entity that needs to maintain persistant data, as there are several reasons that something could go wrong. Faulty hardware, human error or even bad weather can all affect storage devices. In the instance of a financial institution, not having proper backup protocols can lead to the loss of millions or even billions of dollars, as well as legal documents. By having a thorough backup strategy, the financial institution can avoid any data loss, as well as avoid any legal or regulatory issues that might arises from loss of crucial data