A
Project Report On
"Zipfile"

(Java Programming [CE251])

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DECLARATION BY THE CANDIDATE

I hereby declare that the project report entitled "**Zipfile**" submitted by me to **Devang Patel Institute of Advance Technology and Research (DEPSTAR),Changa** in partial fulfilment of the requirement for the award of the degree of **B.Tech** in Computer Engineering, from **Devang Patel Institute of Advance Technology and Research (DEPSTAR)**, is a record of bonafide CE251 – Java Programing (project work) carried out by me under the guidance of **Prof. Aishwariya Budhrani**. I further declare that the work carried out and documented in this project report has not been submitted anywhere else either in part or in full and it is the original work, for the award of any other degree or diploma in this institute or any other institute or university.

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ABSTRACT

In 21st Century data is one of the most important thing in the world so safety of data is so so important and my project's work is to protect your data and our top of the priority is to keep your data secret and Zipfile do that work in Zip we can convert our data in some prototype and that

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CHAPTER 1: INTRODUCTION

1.1 What are Zip files?

Zip files (.zip or .zipx) are single files, sometimes called "archives", that contain one or more compressed files. Zip files make it easy to keep related files together and make transporting, e-mailing, downloading and storing data and software faster and more efficient. The Zip format is the most popular compression format used in the Windows environment, and WinZip is the most popular compression utility.

1.2 Why do people use Zip files?

- Zip files compress data and therefore save time and space and make downloading software and transferring e-mail attachments faster. Typical uses for Zip files include:

  - Distributing files on the Internet: Only one download is required to obtain all related files, and file transfer is quicker because the archived files are compressed.
  - Sending a group of related files to an associate: When you distribute a collection of files as a single Zip file, you benefit from the file grouping as well as compression.
  - Saving disk space: If you have large files that are important but seldom used, such as large data files, simply compress the files into a Zip file and then unzip (or "extract") them only when needed.

1.3 Where does WinZip fit in?

To store files in a Zip file, or to access the files in a Zip file, you need a compression utility such as WinZip. WinZip makes it easy for Windows users to work with archives. WinZip features a standard Windows point-and-click drag-and-drop interface for viewing, running, extracting, adding, deleting, and testing files in Zip files. Occasional and first-time users can choose to use the intuitive WinZip Wizard.

CHAPTER 2: SOFTWARE REQUIREDMENT

2.1 SOFTWARE REQUIRED

- JRE(Java Runtime Enviroment)
- CMD(Command Prompt)

CHAPTER 3: WORKFLOW

3.1 Flowchart

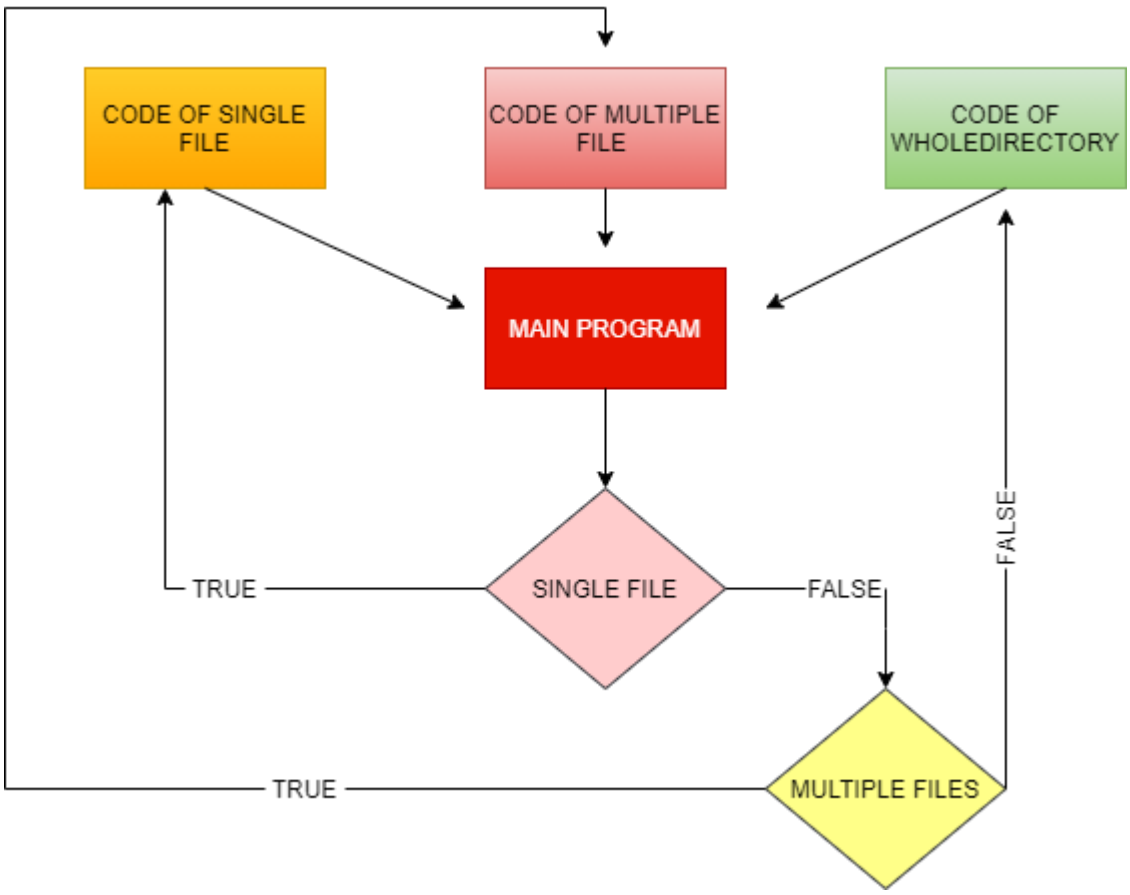

Figure 1 Flowchart

3.2 Steps

- Here we use package concept for zipping so we add three file in one package and that three file is SINGLEFILE,MULTIPLEFILE and WHOLEDIRECTORY
- Next we import all that tree file of package in main program and our journey start with main program
- So we have to insert path of that file which we want to convert into zip and finally we have to insert number as our file stock
- Now,our file converted into zip file
- And yes we can show that zip file at where we save our Main program

CHAPTER 4: EXAMPLES

4.1 Code for single file….

```
 package abc;
import java.io.*;
import java.nio.file.*;
import java.util.zip.*;
public class single {
        public   void zipFile(String filePath) {
            try {
                File file = new File(filePath);
                String zipFileName = file.getName().concat(".zip");
                FileOutputStream fos = new FileOutputStream(zipFileName);
                ZipOutputStream zos = new ZipOutputStream(fos);
                zos.putNextEntry(new ZipEntry(file.getName()));
                byte[] bytes = Files.readAllBytes(Paths.get(filePath));
                zos.write(bytes, 0, bytes.length);
                zos.closeEntry();
                zos.close();
            }
            catch (FileNotFoundException ex) {
                System.err.format("The file %s does not exist", filePath);
            } catch (IOException ex) {
                        System.err.println("I/O error: " + ex);
            }
         }
}
```

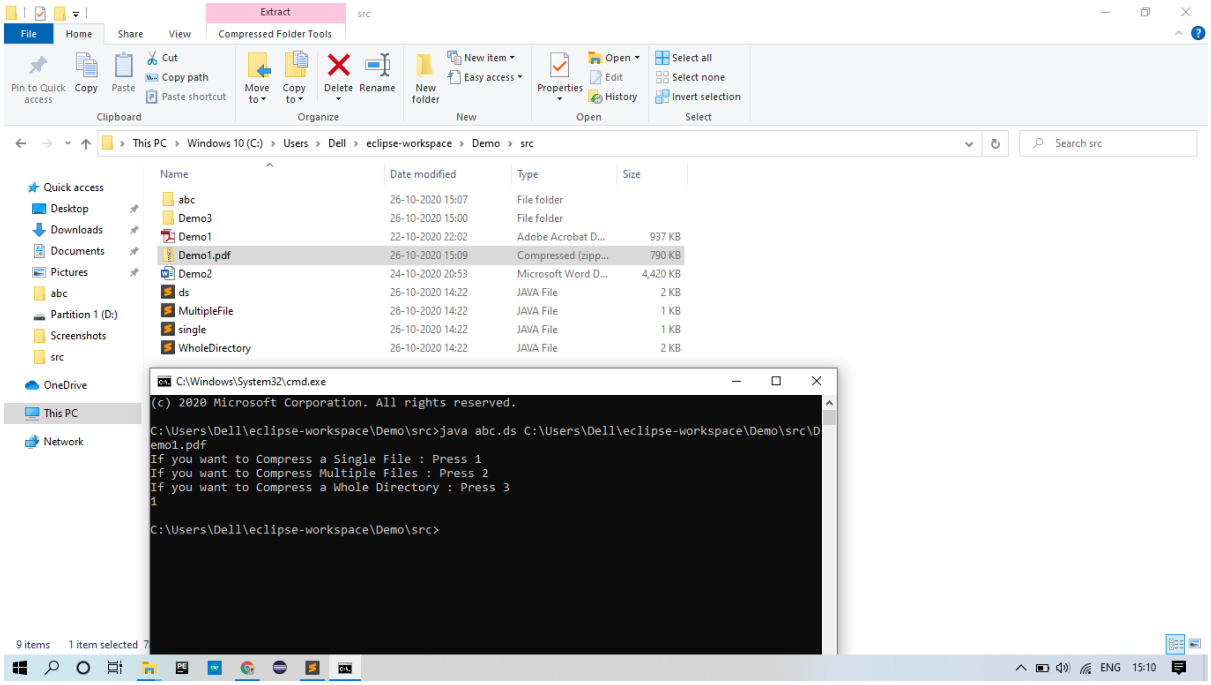

Figure 2 Zip conversion of single file

4.2 Code for Multiple file….

```
package abc;
import java.io.*;
import java.nio.file.*;
import java.util.zip.*;
public class MultipleFile {
        public static void zipFiles(String... filePaths) {
            try {
                File firstFile = new File(filePaths[0]);
                String zipFileName = firstFile.getName().concat(".zip");
                 FileOutputStream fos = new FileOutputStream(zipFileName);
                 ZipOutputStream zos = new ZipOutputStream(fos);
                 for (String aFile : filePaths) {
                        zos.putNextEntry(new ZipEntry(new File(aFile).getName()));
                         byte[] bytes = Files.readAllBytes(Paths.get(aFile));
                         zos.write(bytes, 0, bytes.length);
                         zos.closeEntry();
                }
                 zos.close();
        }
        catch (FileNotFoundException ex) {
```

```
                System.err.println("A file does not exist: " + ex);
        }
        catch (IOException ex) {
                System.err.println("I/O error: " + ex);
        }
}
```

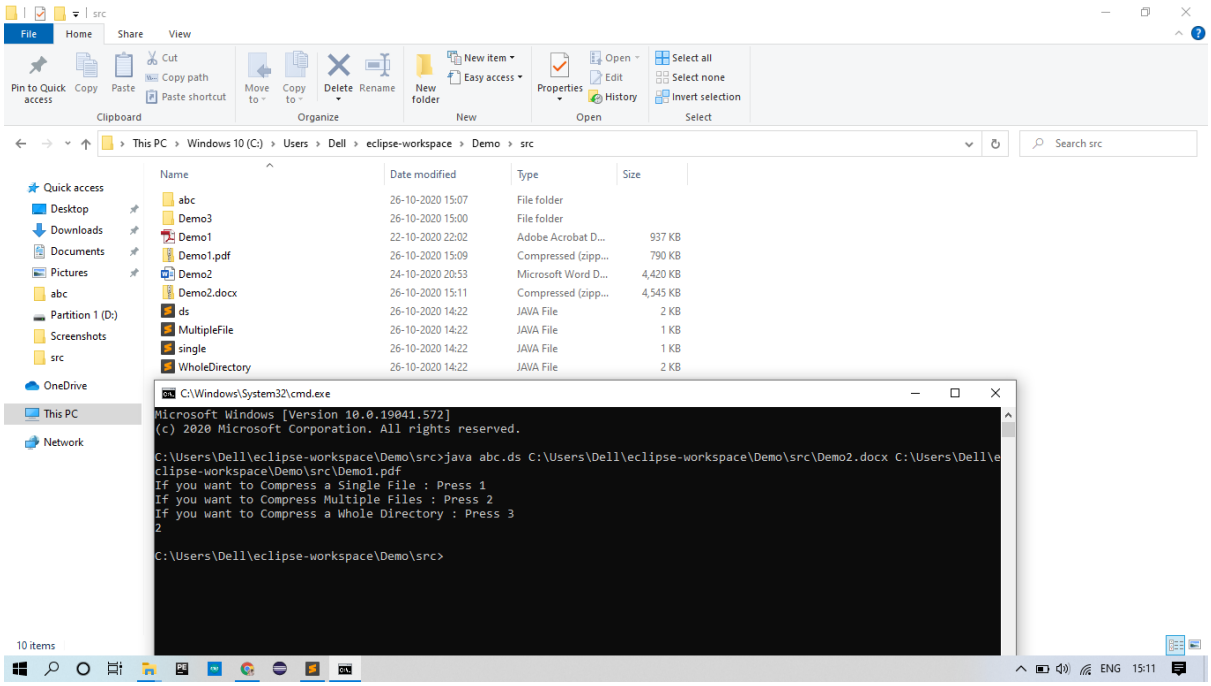

Figure 3 Zip conversion of Multiple file

4.3 Code for WholeDirectory….

```
package abc;
import java.io.*;
import java.nio.file.*;
import java.util.zip.*;
import java.nio.file.attribute.*;
public class WholeDirectory extends SimpleFileVisitor<Path> {
        private static ZipOutputStream zos;
        private Path sourceDir;
        public WholeDirectory(Path sourceDir) {
                this.sourceDir = sourceDir;
        }
```

```
            public FileVisitResult visitFile(Path file, BasicFileAttributes attributes) {
             try {
                targetFile = sourceDir.relativize(file);
                zos.putNextEntry(new ZipEntry(targetFile.toString()));
                byte[] bytes = Files.readAllBytes(file);
                zos.write(bytes, 0, bytes.length);
                zos.closeEntry();

            }
            catch (IOException ex) {
                        System.err.println(ex);
            }
                return FileVisitResult.CONTINUE;
        }
```

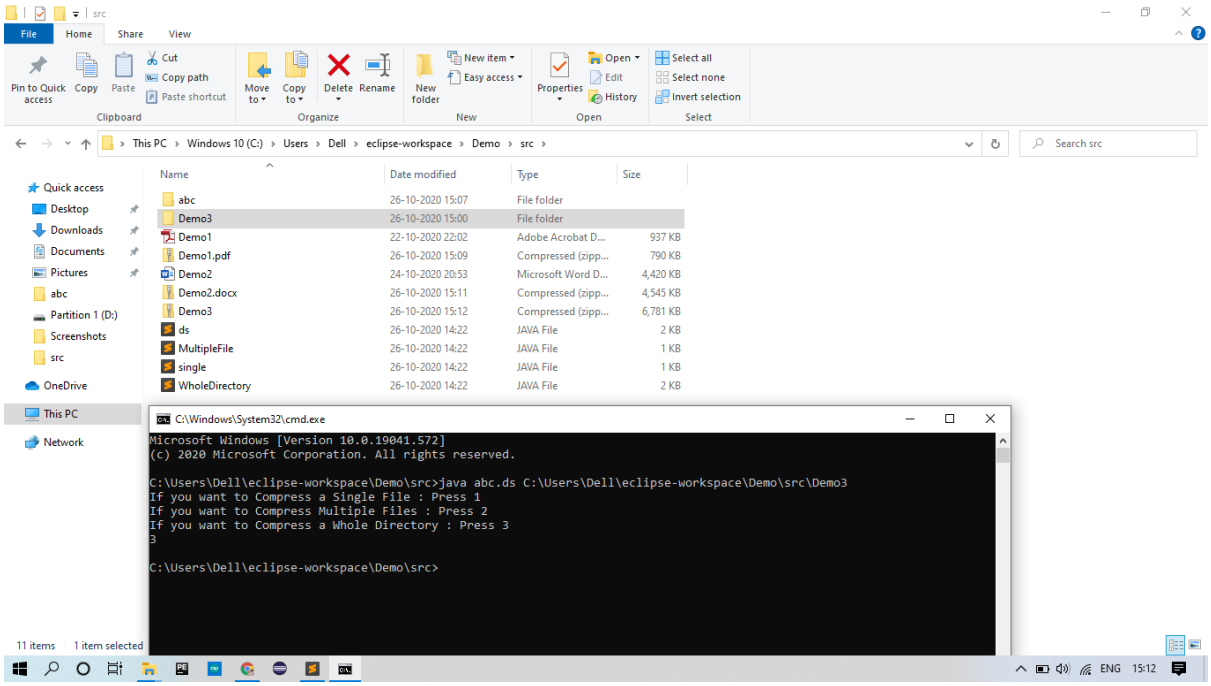

Figure 4 Zipping whole directory

4.4 Merging above 3 code (Packagging concept)

```
package abc;
import abc.*;
import java.io.FileOutputStream;
import java.io.IOException;
import java.nio.file.Files;
import java.nio.file.Path;
import java.nio.file.Paths;
import java.util.Scanner;
```

```
import java.util.zip.ZipOutputStream;
public class StartProgram{
  public static int value = printHello();
  public static int printHello() {
        System.out.println("If you want to Compress a Single File : Press 1");
        System.out.println("If you want to Compress Multiple Files : Press 2");
       System.out.println("If you want to Compress a Whole Directory : Press 3");
        return 0;
  }
        public static void main(String [] args){
        Scanner sc = new Scanner(System.in);
        int No = sc.nextInt();
        if(No==1) {
              String filePath = args[0];
              single o = new single();
                    o.zipFile(filePath);

        }
        else if(No==2) {
              MultipleFile obj = new MultipleFile();
              obj.zipFiles(args);
        }
        else if(No==3) {
              String dirPath = args[0];
                    Path sourceDir = Paths.get(dirPath);
                    WholeDirectory ob = new WholeDirectory(sourceDir);
                     try {
                         String zipFileName = dirPath.concat(".zip");
                         ob.zos = new ZipOutputStream(new FileOutputStream(zipFileName));
                               Files.walkFileTree(sourceDir, new WholeDirectory(sourceDir));
                         ob.zos.close();
                     } catch (IOException ex) {
                                 System.err.println("I/O Error: " + ex);
                     }
        }
  }
```

-

CHAPTER 5: FUTURE ENHANCEMENTS

5.1 Scope of improvement

- Adding more **powerful algorithm** to enhance privacy.
- **Reducing** time complexity for larger file.
- Further adding **advance concept** of converting zipfile.
- If possible making more efficient.

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