

COMP20200 UNIX PROGRAMMING

Assignment 3

Bash Script.

Write a bash script which:

1. Duplicates the directory structure in the source directory to the destination directory.
2. Any *.png* files in the source should be converted to *.jpg* in the same location in the destination directory.
3. The script takes exactly two arguments, source and destination.
4. Source directory remains unchanged.

Example:

```
$ ./assignment3.sh test_input test_output
$
```

Directory structure after executing your script:

```
test_input /
|--- dir1/
|--- |--- file1.html
|--- |--- file2.html
|--- |--- image1.png
|--- dir2/
|--- |--- dir3/
|--- |--- |--- fig.gif
|--- |--- |--- file3.txt
|--- |--- |--- image2.png
|--- |--- fig2.jpg
|--- index.php
|--- pic.png
```

```
test_output/  
|--- dir1/  
|--- |--- image1.jpg  
|--- dir2/  
|--- |--- dir3/  
|--- |--- |--- image2.jpg  
|--- pic.jpg
```

5. Print error and exit if

1. exactly two arguments aren't given,
2. the source directory doesn't exist,
3. unable to write to destination directory.

6. Do not duplicate files that are not *.png* .

7. Name your script “*assign3_xxxx.sh*”, where *xxxx* is your student number.

8. In a comment block at the head of you script put your name, student number, email, and a note on what your script does and how to use it.

9. Submit your code to “*file submit*”.

To convert images use the *convert* command. It is provided by the *ImageMagick* package. You may need to install it:

```
sudo apt-get update  
sudo apt-get install imagemagick
```

The conversion can be determined by the file extension. Example usage:

```
$ convert in_img.png out_img.jpg
```

There are many ways to complete this assignment and all equally valid once the requirements are met. You may use Bash *for* loops or *find* with *-exec* option, a combination of both or another method. *basename* and *Bash substring replacement* may also be useful. Example of substring replacement:

```
stringZ=abc123  
match=abc  
repl=000  
stringY=${stringZ /$match/$repl }  
echo $stringY  
#000123
```