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Os lab3
23k0800

Q1:

```bash
#!/bin/bash
src="data"

for file in "$src"/*;
do
        if [[ -f "$file" ]];
        then
            case "${file##*.}" in
            jpg)
                    mv "$file" "${src}/../Images/"
                            echo "($file) moved to Images"
                    ;;
            txt)
                    mv "$file" "${src}/../Docs/"
                            echo "($file) moved to Docs"
                    ;;
            esac
        fi
done

echo "End"
```


Q2:

```bash
#!/bin/bash

dobackup(){
    read -p "Enter directory name to backup: " dir
    if [[ ! -d "$dir" ]]; then
        echo "Not exist"
        exit 1
    fi

    local timestamp=$(date +"%Y%m%d_%H%M%S")
    local backup_file="${dir}_backup_${timestamp}.tar.gz"
```

```bash
    tar -czf "$backup_file" -C "$dir" .
    echo "Backup done: $backup_file"
}

restorefunc(){
    read -p "Enter the file name to restore: " backup_file
    if [[ ! -f "$backup_file" ]]; then
        echo "does not exist!"
        exit 1
    fi

    local restore_dir="restored_$(basename "$backup_file" .tar.gz)"
    mkdir -p "$restore_dir"
    tar -xzf "$backup_file" -C "$restore_dir"
    echo "Backup restored to: $restore_dir"
}

echo "Choose an option:"
echo "1. Create Backup"
echo "2. Restore from backup"

echo "Your Choice: "
read ch

case $ch in
    1)
        dobackup
        ;;
    2)
        restorefunc
        ;;
    *)
        echo "invalid command, exiting..."
        exit 1
        ;;
esac
```

Q3:

```bash
#!/bin/bash

read -p "Enter file name to backup: " name
```

```bash
if [[ ! -f $name ]]; then
    echo "not exist"
    exit 1
fi

datestamp=$(date +"%Y%m%d")

backupfile="${name%.*}_${datestamp}.${name##*.}"

cp "$name" "$backupfile"
echo "Backup created: $backupfile"
```

Q4:

```bash
#!/bin/bash

cd data
ls -lSr
```

Q5:

```bash
#!/bin/bash

src="../Q4/data/"
dest="../Q5/backup/"

for file in $src*;
do
        if [[ -f $file ]] && [[ $(find $file -mtime +7 -type f) ]];
        then
                cp $file $dest
                echo "$file moved to backup"
        fi
done
```

Q6:

```bash
#!/bin/bash

src="data"
```

```bash
for file in $src/*;
do
    if [[ -f $file && ! -s $file ]];
    then
        rm $file
        echo "$file deleted"
    fi
done
```

Q7:

```bash
#!/bin/bash

read -p "From: " src
read -p "To: " dest

if [[ ! -d "$src" || ! -d $dest ]];
then
    echo "Source or destination is invalid"
    exit 1
fi

for file in $src/*.txt; do
    if [[ -f $file ]]; then
        cp $file $dest
        echo "Copied $file to $dest"
    fi
done

echo "Program ended successfully."
```

Q8:

```bash
#!/bin/bash

if [[ $# != 2 ]];
then
        echo "There should be 2 argument passed, restart program and follow the instructions..."
```

```bash
        exit 1
fi

if [[ ! -d $1 ]]; then
        echo "invalid Directory"
        exit 1
fi

count=1

for file in $1/*;
do
        if [[ ! -f $file ]];
        then
                echo "Not a file, Skipping"
                continue
        else
            extension="${file##*.}"
                if [[ $file == *.* ]];
                then
                        extension=".$extension"
        else
                        extension=""
        fi

        new=${1}/${2}${cnt}${extension}
        mv $file $new
        echo "Renamed '$file' to '$new'"

        let count++
        fi
done
```