Mod 3 Assignment

Question:

For the attached file, write a bash script which should take the file as input and have to go through it line by line and need to generate an output file (say output.txt) with listings of following parameters fetched from the input file.

Params expected to be fetched from input.txt file:
"frame.time", "wlan.fc.type", "wlan.fc.subtype"

Sample output expected in output.txt:

"frame.time": "Nov 14, 2024 11:44:48.219200000 India Standard Time",
"wlan.fc.type": "1",
"wlan.fc.subtype": "9"

"frame.time": "Nov 14, 2024 11:44:48.219208000 India Standard Time",
"wlan.fc.type": "0",
"wlan.fc.subtype": "1",

and so on.

Answer:

```
#!/bin/bash
if [ "$#" -ne 3 ]; then
    echo "Usage: $0 <source_directory> <backup_directory> <file_extension>"
    echo "Example: $0 \"/home/user/source\" \"/backup\" \".txt\""
    exit 1
fi

SOURCE_DIR="$1"
BACKUP_DIR="$2"
FILE_EXT="$3"


export BACKUP_COUNT=0
```

```
if [ ! -d "$SOURCE_DIR" ]; then
    echo "Error: Source directory '$SOURCE_DIR' does not exist."
    exit 1
fi


if [ ! -d "$BACKUP_DIR" ]; then
    echo "Backup directory does not exist. Creating it..."
    mkdir -p "$BACKUP_DIR"
    if [ $? -ne 0 ]; then
        echo "Error: Failed to create backup directory '$BACKUP_DIR'."
        exit 1
    fi
fi

FILES=("$SOURCE_DIR"/*"$FILE_EXT")
if [ ! -e "${FILES[0]}" ]; then
    echo "No files with extension '$FILE_EXT' found in '$SOURCE_DIR'."
    exit 0
fi

echo "========================================"
echo "  Files to be backed up:"
echo "========================================"

TOTAL_SIZE=0

for FILE in "${FILES[@]}"; do
    FILENAME=$(basename "$FILE")
    SIZE=$(stat --format=%s "$FILE")
    TOTAL_SIZE=$((TOTAL_SIZE + SIZE))
    echo "  $FILENAME  -  $SIZE bytes"
done

echo "========================================"
echo ""

echo "Starting backup..."

for FILE in "${FILES[@]}"; do
    FILENAME=$(basename "$FILE")
    DEST="$BACKUP_DIR/$FILENAME"

    if [ -e "$DEST" ]; then
        if [ "$FILE" -nt "$DEST" ]; then
            cp "$FILE" "$DEST"
            echo "  Updated: $FILENAME (source was newer)"
            BACKUP_COUNT=$((BACKUP_COUNT + 1))
```

```
        else
            echo "  Skipped: $FILENAME (backup is up to date)"
        fi
    else
        cp "$FILE" "$DEST"
        echo "  Copied:  $FILENAME"
        BACKUP_COUNT=$((BACKUP_COUNT + 1))
    fi
done

export BACKUP_COUNT

echo ""
echo "Backup complete!"
echo ""

TOTAL_FILES=${#FILES[@]}

REPORT="$BACKUP_DIR/backup_report.log"

{
    echo "========================================"
    echo "         BACKUP SUMMARY REPORT"
    echo "========================================"
    echo "Date       : $(date)"
    echo "Source     : $SOURCE_DIR"
    echo "Backup Dir : $BACKUP_DIR"
    echo "Extension  : $FILE_EXT"
    echo "----------------------------------------"
    echo "Total files processed : $TOTAL_FILES"
    echo "Files backed up       : $BACKUP_COUNT"
    echo "Total size            : $TOTAL_SIZE bytes"
    echo "========================================"
} | tee "$REPORT"

echo ""
echo "Report saved to: $REPORT"
```

```
vishnu@vishnu:~/Documents/linux_assignments/assignment3$ ./backup_manager.sh "./source" "./backup" ".txt"
========================================
  Files to be backed up:
========================================
  file1.txt  -  12 bytes
  file2.txt  -  16 bytes
========================================

Starting backup...
  Copied:  file1.txt
  Copied:  file2.txt

Backup complete!

========================================
         BACKUP SUMMARY REPORT
========================================
Date       : Mon Feb 16 12:50:43 PM UTC 2026
Source     : ./source
Backup Dir : ./backup
Extension  : .txt
----------------------------------------
Total files processed : 2
Files backed up       : 2
Total size            : 28 bytes
========================================
```