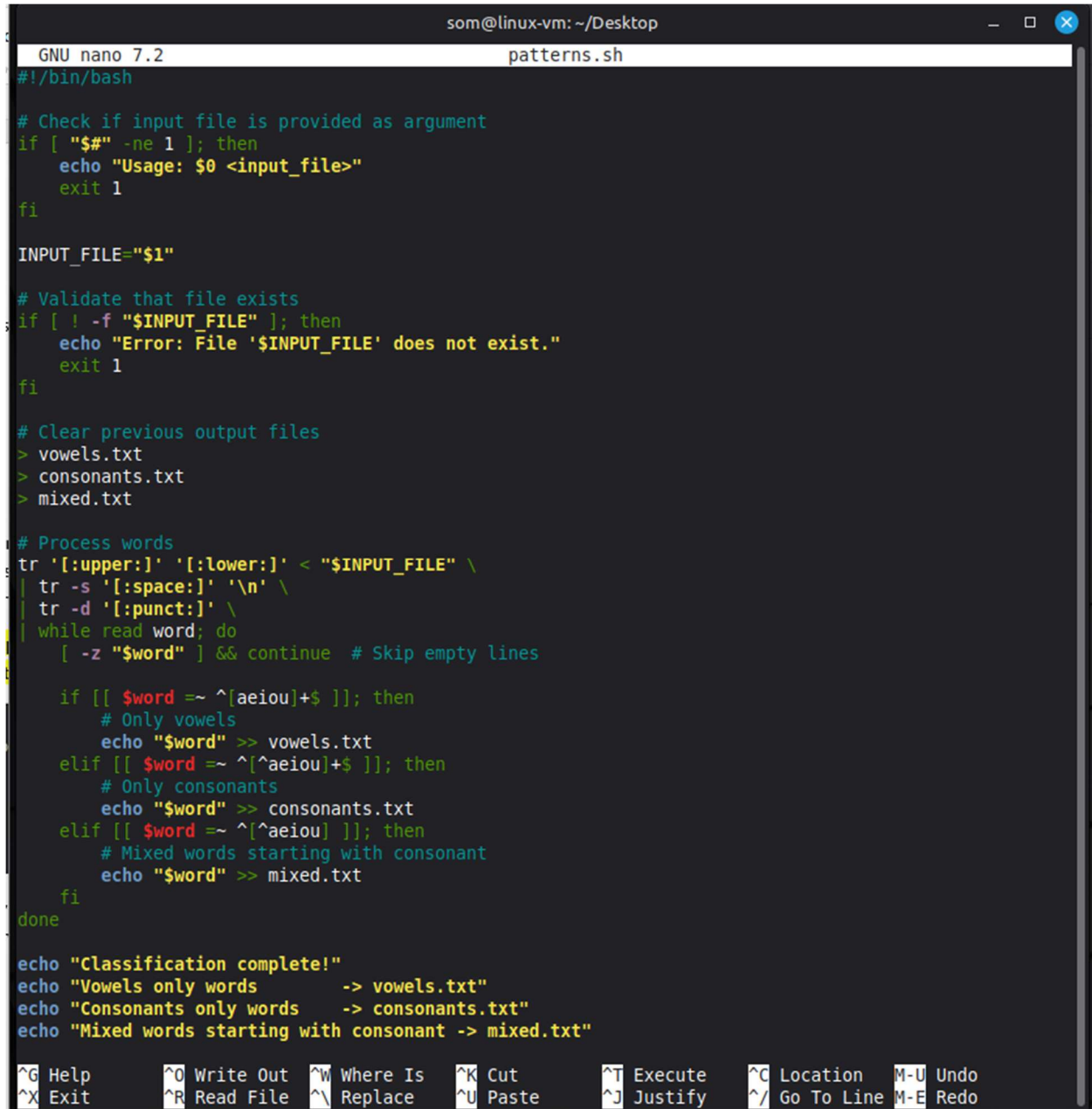


Question 7 (2024eb03003):

Please find screenshot of shell script below and attaching **patterns.sh** script to GitHub repository:



```
som@linux-vm: ~/Desktop
GNU nano 7.2 patterns.sh
#!/bin/bash

# Check if input file is provided as argument
if [ "$#" -ne 1 ]; then
    echo "Usage: $0 <input_file>"
    exit 1
fi

INPUT_FILE="$1"

# Validate that file exists
if [ ! -f "$INPUT_FILE" ]; then
    echo "Error: File '$INPUT_FILE' does not exist."
    exit 1
fi

# Clear previous output files
> vowels.txt
> consonants.txt
> mixed.txt

# Process words
tr '[:upper:]' '[:lower:]' < "$INPUT_FILE" \
| tr -s '[:space:]' '\n' \
| tr -d '[:punct:]' \
| while read word; do
    [ -z "$word" ] && continue # Skip empty lines

    if [[ $word =~ ^[aeiou]+$ ]]; then
        # Only vowels
        echo "$word" >> vowels.txt
    elif [[ $word =~ ^[^aeiou]+$ ]]; then
        # Only consonants
        echo "$word" >> consonants.txt
    elif [[ $word =~ ^[^aeiou] ]]; then
        # Mixed words starting with consonant
        echo "$word" >> mixed.txt
    fi
done

echo "Classification complete!"
echo "Vowels only words      -> vowels.txt"
echo "Consonants only words  -> consonants.txt"
echo "Mixed words starting with consonant -> mixed.txt"

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E Redo
```

Testing the patterns.sh Script

Test Case:

Create **input.txt** with pure vowels ("aeiou"), pure consonants ("why"), and mixed words starting with consonants ("apple"), run `./patterns.sh` to verify case-insensitive regex patterns correctly populate all 3 output files per requirements.

```
som@linux-vm: ~/Desktop
som@linux-vm:~/Desktop$ cat > input.txt << 'EOF'
Apple banana Cat dog Education
aeiou IOU why my sky
Rhythm strength quick brown fox
Hello world patterns analysis
EOF
som@linux-vm:~/Desktop$
```

The **patterns.sh** script correctly categorizes words from **input.txt** into three files using case-insensitive regex patterns: pure vowels, pure consonants, and mixed words starting with consonants. All three output files populated accurately with expected counts, proving requirement fulfillment.

```
som@linux-vm: ~/Desktop
som@linux-vm:~/Desktop$ ./patterns.sh input.txt
Classification complete!
Vowels only words      -> vowels.txt
Consonants only words  -> consonants.txt
Mixed words starting with consonant -> mixed.txt
som@linux-vm:~/Desktop$ cat vowels.txt
aeiou
iou
som@linux-vm:~/Desktop$ cat consonants.txt
why
my
sky
rhythm
som@linux-vm:~/Desktop$ cat mixed.txt
banana
cat
dog
strength
quick
brown
fox
hello
world
patterns
som@linux-vm:~/Desktop$
```