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Fawry Assessment
Task1

The first part in mygrep.sh Script

```bash
#!/bin/bash

show_number=false
invert_match=false

#handle options
while getopts "nv" opt; do
  case "$opt" in
    n)
      show_number=true
      ;;
    v)

      invert_match=true;
      ;;
    *)
      echo "Wrong option"
      exit 1
      ;;
  esac
done
```

here I'm handling Options n and v
I check If the user enter option n or v or both.

Step 2
- Shift options to start focus on inputs
- start to validate inputs and check if there's any exceptions

```bash
# shift options
shift $((OPTIND - 1))


filename=$1
word=$2

#input validation
if [[ -z $filename ]];then
        echo "You've missed to write a filename";
        exit 1;
fi

if [[ -z $word ]];then
        echo "You've missed to write a word for search";
        exit 1;
fi

if [[ ! -f $filename  ]];then
        echo "File $filename is not found";
        exit 1;
fi
```

Step3

```
#seach for words inside lines
line_number=0
while IFS= read -r line; do

    ((line_number=$line_number+1))

    if [[ "$line" == *"$word"* && $invert_match == false ]]; then          # not invert
          if [[ $show_number == true  ]]; then
                echo $line_number: $line
          else
                echo $line
          fi
    elif [[ "$line" != *"$word"* && $invert_match == true  ]]; then                         # invert
          if [[ $show_number == true  ]]; then
                echo $line_number: $line
          else
                echo $line
          fi


    fi
done < "$filename"
```

- IFS refers to getting each line as an item not splitting items by spaces.
- read lines of $filename
we interested to print line in two cases:
1- the word pattern exists and v option doesn't exist
2- the word pattern doesn't exist and v option exists

The most challenging part of the script was likely handling the combination of -n and -v options.
This is because these options modify how the matching lines are displayed:
 - The -n flag requires the script to output line numbers, which means the script needs to track the
line numbers while reading the file.
   The -v flag requires the script to invert printing lines, which means you have to print non-
matching lines instead of matching ones.