ASSIGNMENT 7

Q. Write a shell script to manage a todo list from command line. The script should be able to add, remove, list, sort, prepend, append, deduplicate todo-items:

Shell Program:

```
#!/bin/bash
TODO_FILE="todo.txt"
touch "$TODO_FILE"
list_tasks() {
   if [ ! -s "$TODO_FILE" ]; then
      echo "Your To-Do list is empty."
   else
      echo "Your To-Do List:"
      nl -w2 -s'. ' "$TODO_FILE"
   fi
}

add_task() {
   if [ -z "$1" ]; then
      echo "Error: Task cannot be empty."
      return
   fi
   echo "$1" >> "$TODO_FILE"
   echo "Added: \"$1\""
}

remove_task() {
   list_tasks
```

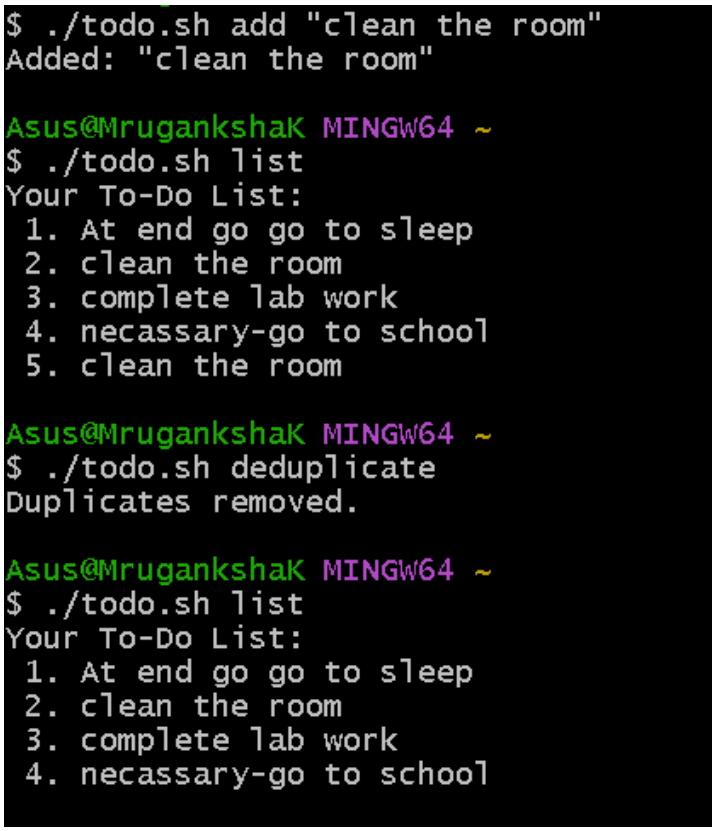
```
    read -p "Enter the task number to remove: " task_no
    if ! [[ "$task_no" =~ ^[0-9]+$ ]]; then
        echo "Invalid input. Please enter a valid task number."
        return
    fi
    if [ "$task_no" -gt "$(wc -l < "$TODO_FILE")" ] || [ "$task_no" -lt 1 ]; then
        echo "Error: Task number out of range."
        return
    fi
    sed -i "${task_no}d" "$TODO_FILE"
    echo "Task $task_no removed."
}

sort_tasks() {
    sort -u "$TODO_FILE" -o "$TODO_FILE"
    echo "Tasks sorted alphabetically."
}

prepend_task() {
    if [ -z "$1" ]; then
        echo "Error: Task cannot be empty."
        return
    fi
    echo "$1" | cat - "$TODO_FILE" > temp && mv temp "$TODO_FILE"
    echo "Prepended: \"$1\""
}

append_task() {
    if [ -z "$1" ]; then
```

```
        echo "Error: Task cannot be empty."
        return
    fi
    echo "$1" >> "$TODO_FILE"
    echo "Appended: \"$1\""
}

deduplicate_tasks() {
    sort -u "$TODO_FILE" -o "$TODO_FILE"
    echo "Duplicates removed."
}

usage() {
    echo "Usage: $0 {add|remove|list|sort|prepend|append|deduplicate} [task]"
    echo "Commands:"
    echo "  list         - Show all tasks"
    echo "  add <task>    - Add a new task"
    echo "  remove       - Remove a task by selecting its number"
    echo "  sort         - Sort tasks alphabetically"
    echo "  prepend <task>- Add a task at the beginning"
    echo "  append <task> - Add a task at the end"
    echo "  deduplicate   - Remove duplicate tasks"
}

case "$1" in
    add) shift; add_task "$*";;
    remove) remove_task;;
    list) list_tasks;;
    sort) sort_tasks;;
```

```
    prepend) shift; prepend_task "$*";;
    append) shift; append_task "$*";;
    deduplicate) deduplicate_tasks;;
    *) usage;;
Esac
```

```
Asus@MrugankshaK MINGW64 ~
$ chmod +x todo.sh

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh add "complete lab work"
Added: "complete lab work"

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh add "do homework"
Added: "do homework"

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh lsit
Usage: ./todo.sh {add|remove|list|sort|prepend|append|deduplicate} [task]
Commands:
  list          - Show all tasks
  add <task>    - Add a new task
  remove        - Remove a task by selecting its number
  sort          - Sort tasks alphabetically
  prepend <task>- Add a task at the beginning
  append <task> - Add a task at the end
  deduplicate   - Remove duplicate tasks

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh list
Your To-Do List:
 1. complete lab work
 2. do homework

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh remove
Your To-Do List:
 1. complete lab work
 2. do homework
Enter the task number to remove: 4
Error: Task number out of range.

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh remove
Your To-Do List:
 1. complete lab work
 2. do homework
Enter the task number to remove: 2
Task 2 removed.
```

```
 1. complete lab work

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh add "clean the room"
Added: "clean the room"

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh sort
Tasks sorted alphabetically.

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh list
Your To-Do List:
 1. clean the room
 2. complete lab work

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh prepend "necassary-go to school"
Prepended: "necassary-go to school"

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh append "At end go go to sleep"
Appended: "At end go go to sleep"

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh list
Your To-Do List:
 1. necassary-go to school
 2. clean the room
 3. complete lab work
 4. At end go go to sleep

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh duplicate
Usage: ./todo.sh {add|remove|list|sort|prepend|append|deduplicate} [task]
Commands:
  list          - Show all tasks
  add <task>    - Add a new task
  remove        - Remove a task by selecting its number
  sort          - Sort tasks alphabetically
  prepend <task>- Add a task at the beginning
  append <task> - Add a task at the end
  deduplicate   - Remove duplicate tasks

Asus@MrugankshaK MINGW64 ~
$ ./todo.sh deduplicate
Duplicates removed.
```



Conclusion:

This contains a To-Do list manager for the command line.
It ensures error-free input handling, proper confirmations, easy listing, sorting, and deduplication of tasks.