Assignment 1- B : Music Database - Shell Programming

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```bash
#!/bin/bash

DB_FILE="music_database.csv"

# Function to initialize the database
initialize_db() {
    if [ ! -f $DB_FILE ]; then
        echo "ID,Title,Artist,Album,Year" > $DB_FILE
    fi
}

# Function to display all records
display_records() {
    echo "ID,Title,Artist,Album,Year"
    cat $DB_FILE | tail -n +2
}

# Function to add a record
add_record() {
    read -p "Enter ID: " id
    read -p "Enter Title: " title
    read -p "Enter Artist: " artist
    read -p "Enter Album: " album
    read -p "Enter Year: " year
    echo "$id,$title,$artist,$album,$year" >> $DB_FILE
    echo "Record added successfully."
}

# Function to delete a record
delete_record() {
    read -p "Enter the ID of the record to delete: " id
    sed -i "/^$id,/d" $DB_FILE
    echo "Record deleted successfully."
}

# Function to update a record
update_record() {
    read -p "Enter the ID of the record to update: " id
    sed -i "/^$id,/d" $DB_FILE
    read -p "Enter new Title: " title
    read -p "Enter new Artist: " artist
    read -p "Enter new Album: " album
    read -p "Enter new Year: " year
    echo "$id,$title,$artist,$album,$year" >> $DB_FILE
```

```bash
        echo "Record updated successfully."
}


# Function to sort records
sort_records() {
    read -p "Enter the field to sort by (ID, Title, Artist, Album,
Year): " field
    field=$(echo $field | tr '[:upper:]' '[:lower:]')
    case $field in
        id) field_num=1 ;;
        title) field_num=2 ;;
        artist) field_num=3 ;;
        album) field_num=4 ;;
        year) field_num=5 ;;
        *) echo "Invalid field."; return ;;
    esac
    echo "ID,Title,Artist,Album,Year"
    (head -n 1 $DB_FILE && tail -n +2 $DB_FILE | sort -t','
-k$field_num,$field_num) > sorted_db.csv
    cat sorted_db.csv
    mv sorted_db.csv $DB_FILE
}


# Function to add initial records
add_initial_records() {
    echo "1,Tere Naina,Shankar Mahadevan & Shreya Ghosal, Chandni Chowk
To China,2009" >> $DB_FILE
    echo "2,Mitwa,Shankar-Ehsaan-Loy,Kabhi Alvida Naa Kehna,2006" >>
$DB_FILE
    echo "3,Chand Sifarish, Jatin-Lalit,Fanna,2006" >> $DB_FILE
    echo "4,Qaafirana,Arjit Singh,Kedarnath,2018" >> $DB_FILE
    echo "5,Kaun Tujhe, Palak Muchhal,M.S.Dhoni-The Untold Story,2016"
>> $DB_FILE
}


# Initialize the database
initialize_db


# Add initial records if the database is empty
if [ $(wc -l < $DB_FILE) -eq 1 ]; then
    add_initial_records
fi


# Menu for user options
while true; do
    echo
    echo "Music Database"
    echo "1. Display records"
    echo "2. Add a record"
    echo "3. Delete a record"
    echo "4. Update a record"
```

```bash
        echo "5. Sort records"
        echo "6. Exit"
        read -p "Choose an option: " choice

        case $choice in
            1) display_records ;;
            2) add_record ;;
            3) delete_record ;;
            4) update_record ;;
            5) sort_records ;;
            6) exit 0 ;;
            *) echo "Invalid option. Please try again." ;;
        esac
done
```

OUTPUT OF CODE:

```
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 3
Enter the ID of the record to delete: 4
Record deleted successfully.

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 1
ID,Title,Artist,Album,Year
5,Tere Naina,Shankar Mahadevan & Shreya Ghosal,Chandni Chowk To China,2009

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 4
Enter the ID of the record to update: 5
Enter new Title: Qaafirana
Enter new Artist: Arjit Singh
Enter new Album: Kedarnath
Enter new Year: 2018
Record updated successfully.

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
```

```
Record deleted successfully.

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 3
Enter the ID of the record to delete: 2
Record deleted successfully.

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 3
Enter the ID of the record to delete: 3
Record deleted successfully.

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option:
Invalid option. Please try again.

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
```

```
Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 2
Enter ID: 5
Enter Title: Tere Naina
Enter Artist: Shankar Mahadevan & Shreya Ghosal
Enter Album: Chandni Chowk To China
Enter Year: 2009
Record added successfully.

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 1
ID,Title,Artist,Album,Year
1,Bohemian Rhapsody,Queen,A Night at the Opera,1975
2,Imagine,John Lennon,Imagine,1971
3,Hotel California,Eagles,Hotel California,1976
4,Stairway to Heaven,Led Zeppelin,Led Zeppelin IV,1971
1,abc,arjit singh,xyz,2024
5,Tere Naina,Shankar Mahadevan & Shreya Ghosal,Chandni Chowk To China,2009

Music Database
1. Display records
2. Add a record
3. Delete a record
4. Update a record
5. Sort records
6. Exit
Choose an option: 3
Enter the ID of the record to delete: 1
```