Assignment 1

Code

```bash
#!/bin/bash

# Provide permissions using following command
# chmod u+x 'Assignment 1.sh'
#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~CREATE
FUNCTION~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

CREATE()
{
        echo -e "Enter Name of the file:"
        read entered_file

        # Checking if file already exists
        search=`ls | grep $entered_file | wc -l`

        if (( $search > 0 ))
        then
                file_name=$entered_file
                echo -e "${MAGNETA}Selected file named: $file_name ${ENDCOLOR}"
        else
                file_name=$entered_file
                touch $file_name.txt
                echo -e "${MAGNETA}Created file named: $file_name ${ENDCOLOR}"

                echo -e "ID|NAME|ADDRESS|PHONE_NO"  >> $file_name.txt

        fi
}


#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ADD
FUNCTION~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

ADD()
{
        if [ -z $file_name ]  # checks if file length is zero
        then
```

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                echo -e "${MAGNETA}Please create or select file first before
adding contents!!!!!${ENDCOLOR}"

        else
                echo -e "Enter ID:"
                read ID

                echo -e "Enter Name:"
                read Name

                echo -e "Enter Address:"
                read Address

                echo -e "Enter Phone No:"
                read Phone

                echo -e "$ID|$Name|$Address|$Phone"   >> $file_name.txt
        fi
}

#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~DISPLAY
FUNCTION~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

DISPLAY()
{
        echo -e
"~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~"
        cat $file_name.txt | column -t -s "|"
        echo -e
"~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~"
}


#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~DELETE
FUNCTION~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

DELETE()
{
        echo -e "Enter the ID which is to be deleted:"
        read Delete_ID

        flag=`cat $file_name.txt | grep $Delete_ID | wc -l`

        if [ $flag -eq 1 ] #checking valid ID
        then
                deleted_item=`cat $file_name.txt | grep $Delete_ID`
                sed -i "/^$Delete_ID/d" $file_name.txt
                    # Deleting ID

                echo -e "Record Deleted Successfuly\n Record: $deleted_item"
```

```bash
                else
                        echo -e "Entered ID doesn't exist!!!"
                fi
}


#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~MODIFY
FUNCTION~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

MODIFY()
{
        echo -e "Enter the ID to modify the Entry: "
        read modify_ID
        check_flag=`cat $file_name.txt | grep $modify_ID | wc -l`
        if [ $check_flag -eq 0 ]
        then
                echo -e "Entered ID doesn't exist, Check Again!!!"
        else
                original_line=`cat $file_name.txt | grep $modify_ID`

                echo -e "Enter the following values to modify the file: "

                read -p "Enter Name: " New_Name
                read -p "Enter Address: " New_Address
                read -p "Enter Phone No: " New_Phone

                new_line="$modify_ID|$New_Name|$New_Address|$New_Phone"

                sed -i "s/$original_line/$new_line/" $file_name.txt

                echo "Changes done!"
        fi
}


#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~MAIN
CODE~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~


# MENU
echo -e "ADDRESS BOOK"
echo -e "Select an Operation (Enter q to exit)\nEnter : \n  c to Create New file
or Select Existing File\n  a to ADD Entries to File \n  d to Display File \n  de
to Delete Content\n  m to Modify File \n  q to Exit "
read Operation


while [ $Operation != q ]
do
```

```bash
        case $Operation in  # CASE FOR VARIOUS OPTIONS ; FUNCTIONS CALL FOR
    RESPECTIVE OPTIONS

                c)
                CREATE
                ;;

                a)
                ADD
                ;;

                d)
                DISPLAY
                ;;

                de)
                DELETE
                ;;

                m)
                MODIFY
                ;;


                *)   # ERROR MESSAGE FOR IRRELEVANT ENTRIES
                echo "Invalid Entry!!!"
                ;;


        esac
        echo -e "Select an Operation (Enter q to exit)\nEnter : \n  c to Create
    New file or Select Existing File\n  a to Add Entries to File \n  d to Display File
    \n  de to Delete Content\n  m to Modify File \n  q to Exit"
        read Operation

    done
```

Output

```
abhishek-jadhav@abhishek-jadhav-ubuntu:~/Codes/OS Assignments/33232$
./'Assignment_1.sh'
ADDRESS BOOK
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to ADD Entries to File
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
c
Enter Name of the file:
Address_Book
Created file named: Address_Book
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
a
Enter ID:
33232
Enter Name:
Abhishek Jadhav
Enter Address:
Pune, Maharashtra
Enter Phone No:
7030405299
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
d
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
ID     NAME            ADDRESS           PHONE_NO
33232  Abhishek Jadhav  Pune, Maharashtra  7030405299
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
```

```
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
a
Enter ID:
33232
Enter Name:
Abhishek Jadhav
Enter Address:
Nashik, Maharashtra
Enter Phone No:
7030405299
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
d
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
ID     NAME             ADDRESS            PHONE_NO
33232  Abhishek Jadhav  Pune, Maharashtra    7030405299
33232  Abhishek Jadhav  Nashik, Maharashtra  7030405299
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
m
Enter the ID to modify the Entry:
33232
Enter the following values to modify the file:
Enter Name: AbhishekJadhav2002
Enter Address: Pune-411046
Enter Phone No: 7030405299
sed: -e expression #1, char 52: unterminated `s' command
Changes done!
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
  d to Display File
  de to Delete Content
```

```
  m to Modify File
  q to Exit
d
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
ID     NAME             ADDRESS          PHONE_NO
33232  Abhishek Jadhav  Pune, Maharashtra    7030405299
33232  Abhishek Jadhav  Nashik, Maharashtra  7030405299
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
de
Enter the ID which is to be deleted:
33232
Entered ID doesn't exist!!!
Select an Operation (Enter q to exit)
Enter :
  c to Create New file or Select Existing File
  a to Add Entries to File
  d to Display File
  de to Delete Content
  m to Modify File
  q to Exit
q
abhishek-jadhav@abhishek-jadhav-ubuntu:~/Codes/OS Assignments/33232$
```