Prgm-6

#Program to search for a key elemnet in an array

echo "Enter the number of elements"

read n

i=0

echo "Enter the numbers"

while [ $i -lt $n ]

do

read a[$i]

i=$((i + 1))

done

echo "Enter the key number"

read key

k=0

p=0

while [ $k -lt $n ]

do

if [ ${a[$k]} -eq $key ]

then

p=$(($k + 1))

break

fi

k=$((k + 1))

done

if [ $p -ne 0 ]

then

echo "The key element $key got found and is at position $p"

else

echo "The key element $key is not there within the array"

fi

Prgm-7

#Program to perform insertion and deletion of elements from an array.

echo "Enter the size of the array"

read size

i=0

echo "Enter the elements"

while [ $i -lt $size ]

do

read a[$i]

i=$((i+1))

done

echo -e "\n OPERATIONS \n\n 1.INSERTION \n 2. DELETION \n\n Enter your choice(1/2) : "

read c

case $c in

1) echo -e "\n INSERTION \n Enter the position where element is to be inserted : "

read pos

echo "Enter the element"

read key

i=$(($size - 1))

p=$(($pos - 1))

while [ $i -ge $p ]

do

a[$(($i + 1))]=${a[$i]}

i=$(($i - 1))

done

a[$p]=$key

echo -e "\nArray after insertion : "

s=$(($size + 1))

echo ${a[@]:0:$s}

;;

2) echo -e "\n DELETION \n Enter the element to be deleted : "

read e

k=0

pos=0

while [ $k -lt $size ]

do

if [ ${a[$k]} -eq $e ]

then

# p=$(($k + 1))

pos=1

break

fi

k=$(($k + 1))

done

if [ $pos -eq 1 ]

then

while [ $k -lt $(($size - 1)) ]

do

a[$k]=${a[$(($k+1))]}

k=$(($k+1))

done

echo -e "\nArray after deletion : "

i=0

s=$(($size - 1))

echo ${a[@]:0:$s}

else

echo -e "\nThere is no such element in the array."

fi

;;

\*) echo "Invalid option"

;;

esac

Prgm-8

#Program to sort elements within an array

function sort()

{

local arr=("$@")

i=0

length=${#arr[@]}

while [ $i -lt $length ]

do

j=0

while [ $j -lt $(($length - $i)) ]

do

if [[ ${arr[$j]} -gt ${arr[$(($j + 1))]} ]]

then

t=${arr[$j]}

arr[$j]=${arr[$(($j + 1))]}

arr[$(($j + 1))]=$t

fi

j=$(($j+1))

done

i=$(($i+1))

done

echo -e "\nArray after sorting : "

echo ${arr[@]}

}

echo "Enter the size of an array"

read n

echo "Enter the elements"

i=0

while [ $i -lt $n ]

do

read a[$i]

i=$(($i+1))

done

sort "${a[@]}"