OS LAB 3

Palindrome

```
echo "Enter a number"
read num

# Storing the remainder
s=0

# Store number in reverse
# order
rev=""

# Store original number
# in another variable
temp=$num #To access variable we require a dollar sign

while [ $num -gt 0 ]
do
 # Get Remainder
 s=$(( $num % 10 ))

 # Get next digit
 num=$(( $num / 10 ))

 # Store previous number and
```

```
 # current digit in reverse
 rev=$( echo ${rev}${s} )
done

if [ $temp -eq $rev ];
then
 echo "Number is palindrome"
else
 echo "Number is NOT palindrome"
fi
```

Quick Sort

```
function partition {
        let i=$2-1
        let pivot=${x[$3]}

        for(( j="$2"; j<"$3"; j++ ))
        do
                if [ "${x[$j]}" -lt "$pivot" ]
                then
                        let i=i+1
                        let temp=${x[$i]}
                        x[$i]=${x[$j]}
                        x[$j]=$temp
                fi
        done
```

```
        let temp=${x[$((i+1))]}
        x[$((i+1))]=${x[$3]}
        x[$3]=$temp

        k=$((i+1))

}

function quicksort {
        if [ "$2" -lt "$3" ]
        then
                partition x $2 $3
                let pi=k
                quicksort x $2 $((pi-1))
                quicksort x $((pi+1)) $3
        fi

}

x=(3 5 1 7 11 3 2)
quicksort x 0 6

echo -n "Sorted array: "
for i in "${x[@]}"
do
        echo -n "$i "
done
```

```
echo
```

Substring

```
read str
read str1

if [[ "$str" == *"$str1"* ]]; then
  echo "Substring Found"
fi

if [[ "$str1" == *"$str"* ]]; then
  echo "Substring Found"
fi
```