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OS Tut 3

Palindrome:

Code:

```
echo "Enter the number"
read n
function pal
{
number=$n
reverse=0
while [ $n -gt 0 ]
do
a=`expr $n % 10 `
n=`expr $n / 10 `
reverse=`expr $reverse \* 10 + $a`
done
echo $reverse
if [ $number -eq $reverse ]
then
   echo "Number is palindrome"
else
   echo "Number is not palindrome"
fi
}
r=`pal $n`
echo "$r"
```

Output:

```
ankur@LAPTOP-7GJ3PLBR MINGW64 ~/OneDrive/Desktop/New folder
$ sh 1.sh
Enter the number
123
321
Number is not palindrome

ankur@LAPTOP-7GJ3PLBR MINGW64 ~/OneDrive/Desktop/New folder
$ sh 1.sh
Enter the number
1221
1221
Number is palindrome
```

Prime Number:

Code:

```
echo -e "Enter Number : \c"
read n
for((i=2; i<=$n/2; i++))
do
  ans=$(( n%i ))
  if [ $ans -eq 0 ]
  then
    echo "$n is not a prime number."
    exit 0
  fi
done
echo "$n is a prime number."
```

Output:

```
ankur@LAPTOP-7GJ3PLBR MINGW64 ~/OneDrive/Desktop/New folder
$ sh 1.sh
Enter Number : 12
12 is not a prime number.

ankur@LAPTOP-7GJ3PLBR MINGW64 ~/OneDrive/Desktop/New folder
$ sh 1.sh
Enter Number : 11
11 is a prime number.
```

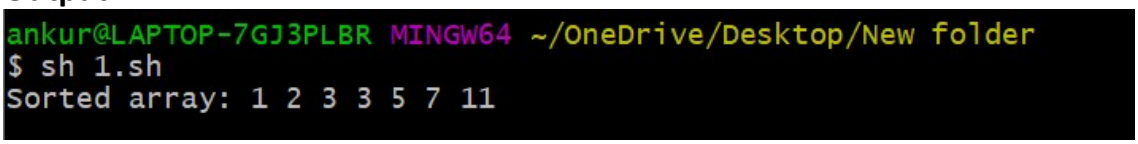
Quick Sort:

Code:

```
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

Output:


ankur@LAPTOP-7GJ3PLBR MINGW64 ~/OneDrive/Desktop/New folder
$ sh 1.sh
Sorted array: 1 2 3 3 5 7 11