#!/bin/bash

# creating a menu with the following options

echo "MENU DRIVEN PROGRAM";

echo "1. Factorial "

echo "2. Greatest "

echo "3. Prime Number "

echo "4. Number Palindrome "

echo "5. String palindrome "

echo "6. Exit from menu "

echo -n "Enter your menu choice [1-6]: "

# Running a forever loop using while statement

# This loop will run untill select the exit option.

# User will be asked to select option again and again

while :

do

# reading choice

read choice

# case statement is used to compare one value with the multiple cases.

case $choice in

# Pattern 1

1) echo -n "Enter a number: "

read number

factorial=1

for(( i=1; i<=number; i++ ))

do

factorial=$[ $factorial \* $i ]

done

echo "The factorial of $number is $factorial";;

# Pattern 2

2) echo "Enter Num1"

read num1

echo "Enter Num2"

read num2

echo "Enter Num3"

read num3

if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]

then

echo $num1

elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]

then

echo $num2

else

echo $num3

fi;;

# Pattern 3

3) 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.";;

# Pattern 4

4) echo -n "Enter number : "

read n

# store single digit

sd=0

# store number in reverse order

rev=""

# store original number

on=$n

while [ $n -gt 0 ]

do

sd=$(( $n % 10 )) # get Remainder

n=$(( $n / 10 )) # get next digit

# store previous number and current digit in reverse

rev=$( echo ${rev}${sd} )

done

if [ $on -eq $rev ];

then

echo "Number is palindrome"

else

echo "Number is NOT palindrome"

fi;;

# Pattern 5

5) #clear

echo "Enter a string to be entered:"

read str

echo

len=`echo $str | wc -c`

len=`expr $len - 1`

i=1

j=`expr $len / 2`

while test $i -le $j

do

k=`echo $str | cut -c $i`

l=`echo $str | cut -c $len`

if test $k != $l

then

echo "String is not palindrome"

exit

fi

i=`expr $i + 1`

len=`expr $len - 1`

done

echo "String is palindrome";;

# Pattern 6

6) echo "Quiting ..."

exit;;

# Default Pattern

\*) echo "invalid option";;

esac

echo -n "Enter your menu choice [1-6]: "

done