#! /bin/bash

echo "enter an integer:"

read input

if [ $input -lt 1 ];then

echo "not allowed!"

exit 1

fi

i=2

count=0

flag=0

for ((i;i<$input;));do

if [ `expr $input % $i` -eq 0 ];then

factor=$i

for ((j=2;j<=`expr $factor / 2`;));do

flag=0

if [ `expr $factor % $j` -eq 0 ];then

flag=1

break

fi

j=`expr $j + 1`

done

if [ $flag -eq 0 ];then

echo "[ $factor ]"

count=1

fi

fi

i=`expr $i + 1`

done

if [ $count -eq 0 ];then

echo "no prime factors found except 1 and $input"

fi

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$ ./factorization.sh

enter an integer:

131

no prime factors found except 1 and 131

#! /bin/bash

echo "enter the number"

read n

function prime

{

for((i=2; i<=n/2; i++))

do

if [ $((n%i)) -eq 0 ]

then

echo "$n is not prime number"

exit

fi

done

echo "$n is a prime number"

}

r=`prime $number`

echo "$r"

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$ ./prime.sh

enter the number

23

23 is a prime number

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$ ./prime.sh

enter the number

22

22 is not prime number

#! /bin/bash

echo "Enter the number"

read n

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

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$ ./polindrome.sh

Enter the number

545

545

Number is palindrome

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$ ./polindrome.sh

Enter the number

235

532

Number is not palindrome

#! /bin/bash

echo Enter Number

read num

factorial=1

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

do

factorial=$(($factorial\*$i))

done

echo Factorial of $num is $factorial

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$ ./factorial.sh

Enter Number

6

Factorial of 6 is 720

#! /bin/bash

echo "enter the power number "

read n

for i in n

do

echo $((2\*\*i))

done

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$ ./power.sh

enter the power number

4

16

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$ ./power.sh

enter the power number

3

8

#! /bin/bash

echo flips =1

echo heads = 0

echo tails= 0

while [ $flips -ge 11 ]

do

if [ coin -eq 1 ]

then

echo "heads"

heads += 1

flips +=1

elif [ coin -eq 0 ]

then

echo "tails"

tails += 1

flips +=1

echo "You got heads and tails!"

fi

done

output-no

#! /bin/bash -x

read n

echo $((RANDOM%10))

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$ ./ransingle.sh

+ read n

786

+ echo 2

2

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$ ./ransingle.sh

+ read n

456789

+ echo 6

6

#! /bin/bash

echo "Enter Year:"

read y

year=$y

y=$(( $y % 4 ))

if [ $y -eq 0 ]

then

echo "$year is Leap Year!"

else

echo "$year is not a Leap Year!"

fi

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$ ./leap.sh

Enter Year:

2014

2014 is not a Leap Year!

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$ ./leap.sh

Enter Year:

2020

2020 is Leap Year!

#! /bin/bash

r=$(( $RANDOM % 6 ))

echo $r

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$ ./random5.sh

4

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$ ./random5.sh

5

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$ ./random5.sh

3

#! /bin/bash

a=$((RANDOM%6))

echo $a

b=$((RANDOM%6))

echo $b

sum=`expr $a + $b`

echo "sum of random numbers is $sum"

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$ ./random6.sh

0

2

sum of random numbers is 2

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$ ./random6.sh

5

3

sum of random numbers is 8