**Day 6 Assignment**

**1. Power of the 2**

**#! /bin/bash**

**echo "enter the power number "**

**read n**

**for i in n**

**do**

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

**done**

**output:**

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**$ ./power.sh**

**enter the power number**

**4**

**16**

**3. prime number**

**#! /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"**

**output:**

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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

**6. prime in range**

#! /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

output:

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$ ./factorization.sh

enter an integer:

131

no prime factors found except 1 and 131

**5. Factorial of a number**

#! /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

output:

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$ ./factorial.sh

Enter Number

6

Factorial of 6 is 720