#Find Factorial of a number using function

Program:

```
def fact(num):

if num==1:

return 1

else:

a=num*fact(num-1)

return a

num=int(input("Enter a number: "))
x=fact(num) print("The factorial
of",num,"is",x)
```

Output:

```
ace@ace-ThinkCentre-M70e:~$ cd
Desktop ace@ace-ThinkCentre-
M70e:~/Desktop$ python fact.py

Enter a number: 5

The factorial of 5 is 120
```

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#Find the GCD of two numbers

Program:

```
def gcd(a,b):
if b>a:
return gcd(b,a)
r=a%b
if r==0:
return b
return gcd(r,b)
a=int(input("Enter the first number: "))
b=int(input("Enter the second number: "))
x=gcd(a,b)
print("The gcd of",a,"&",b,"is",x)
```

Output:

```
ace@ace-ThinkCentre-M70e:~$ cd Desktop
ace@ace-ThinkCentre-M70e:~/Desktop$ python gcd.py
Enter the first number: 20
Enter the second number: 45
The gcd of 20 & 45 is 5
```

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#Convert Binary to Decimal Equivalent

Program:

```
def btd(x):

a=-1

b=0

ans=0

l=len(x)

while(b<l):
ans=ans+((2**b)*(int(x[a])))

a=a-1

b+=1

return ans

x=str(input("Enter a binary number: "))
c=btd(x) print("The decimal equivalent
of",x,"is",c)
```

Output:

```
ace@ace-ThinkCentre-M70e:~$ cd
Desktop ace@ace-ThinkCentre-
M70e:~/Desktop$ python btd.py

Enter a binary number: 1111

The decimal equivalent of 1111 is 15
```

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