

Assignment- Debajyoti Biswas

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[1]: Num = int(input("Enter a positive number"))
Factorial = 1
if Num < 0:
    print("Factorial does not exist for negative numbers")
elif Num == 0:
    print("The factorial of 0 is 1")
else:
    for i in range(1, Num + 1):
        Factorial = Factorial * i
    print("The factorial of",Num,"is",Factorial)
```

Enter a positive number6
The factorial of 6 is 720

```
[2]: import random
import math
# Taking Inputs
lower = int(input("Enter Lower bound:- "))

# Taking Inputs
upper = int(input("Enter Upper bound:- "))

# generating random number between
# the lower and upper
x = random.randint(lower, upper)
print("\n\tYou've only ",
      round(math.log(upper - lower + 1, 2)), # this number is just a count of
      →the number of chances the user gets
      " chances to guess the integer!\n")

# Initializing the number of guesses.
count = 0

# for calculation of minimum number of
# guesses depends upon range
while count < math.log(upper - lower + 1, 2):
    count += 1
```

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# taking guessing number as input
guess = int(input("Guess a number:- "))

# Condition testing
if x == guess:
    print("Congratulations you did it in ",
          count, " try")
    # Once guessed, loop will break
    break
elif x > guess:
    print("You guessed too small!")
elif x < guess:
    print("You Guessed too high!")

# If Guessing is more than required guesses, shows this output.
if count >= math.log(upper - lower + 1, 2):
    print("\nThe number is %d" % x)
    print("\tBetter Luck Next time!")

```

Enter Lower bound:- 5

Enter Upper bound:- 10

You've only 3 chances to guess the integer!

Guess a number:- 7

You Guessed too high!

Guess a number:- 6

You Guessed too high!

Guess a number:- 5

Congratulations you did it in 3 try

The number is 5

Better Luck Next time!

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