**4 times flip coin** #heads = #tails

t t t t

t t t h

t t h t

t t h h

t h t t

t h t h (Answer is 6 times)

t h h t

t h h h

h t t t

h t t h

h t h t

h t h h

h h t t

h h t h

h h h t

h h h h

**5 times flip coin #Heads = #Tails**

I think it will be zero because 5 is an odd number

For example

H H H T T

T T H H H #Heads will never equal #Tails

T T T H H

**5 times flip coin (1 head)**

H T T T T and so on T H T T T

The answer will be 5

**5 times flip coin (2 head)**

\_ \_ \_ \_ \_ 5 places 2 of them must be Head

Number of possibilities is 25 = 32

Possibilities of 2 Heads

H H T T T , H T H T T , H T T H T , H T T T H , T H H T T , T H T H T , T H T T H , T T H H T , T T H T H ,

T T T H H = 10 =(4\*5)/2=10

WHY?

First Head => H \_ \_ \_ \_ = 5 possibilities

Second Head => H \_ \_ H \_ = 4 possiblites

Therefore will be 4 \* 5 = 20 but we can do this from the other side like this \_ \_ \_ \_ H ….. we must divide by 2 because we over count exactly by factor of 2

The answer will be (4\*5)/2=10

**5 times flip coin (3 head)**

The answer will be: (5 \* 4\* 3)/6=10

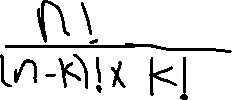
H \_ \_ \_ \_ => H \_ H \_ \_ => H \_ H \_ H =>5\*4\*3=60

we must divide by 3 because we over count exactly by factor of 3 and by 2 because we over count by 2 => 3\*2=6

Or we can solve it by say (2 Tails) will be (5\*4)/2=10

**10 times flip coin (5 head)**

The answer = (10\*9\*8\*7\*6)/(5\*4\*3\*2\*1) =252



Formula

**Probability of flipping coin 5 times #Heads = 1**

**P(HEAD)=0.5**

5! /4!=5 , 25=32 , the answer = 5/32 = 0.15625

**Probability of flipping coin 5 times #Heads = 3**

**P(HEAD)=0.5**

5! / (3! \*2!) = 10, 25=32 , the answer = 10/32 = 0.3125

**Probability of flipping coin 3 times #Heads = 1**

**P(HEAD)=0.8**

3!/2!\*0.8\*0.2\*0.2=0.096

**Probability of flipping coin 5 times #Heads = 4**

**P(HEAD)=0.8**

5!/4!\*0.8\*0.8\*0.8\*0.8\*0.2=0.4096

**Probability of flipping coin 5 times #Heads = 3**

**P(HEAD)=0.8**

5!/(3!\*2!)\*(0.8)3\*(0.2)2=0.2048

**Probability of flipping coin 12 times #Heads = 9**

**P(HEAD)=0.8**

12!/(9!\*3!)\*(0.8)9\*(0.2)3= 0.236223201

Binomial Distribution formula