Draw a BST based on the following insertions - perform them in order from left to right. *Duplicate value go to right subtree*

G, C, A, Z, P, M

Z, P, C, A, G, M

H, C, A, H, X

H, C, A, X, H

For the letters A, B, C, D, E, F, G what insertion sequence results in a tree with minimal height?

```
D then B, F then ACEG
```

*Draw a complete binary tree with height of 1*

(1 layer below root, child nodes at every available location).

How many nodes are there? 3

How many are leaves? 2

*Extend the tree to height of 2 (2 layers below root)*

How many nodes are there? 7

How many are leaves? 4

*Extend the tree to height of 3*

How many nodes are there? 15

How many are leaves? 8

What is the maximum number of nodes in a BST with a height of x?

\[ 2^{(x+1)} - 1 \]

How many will be leaves?

\[ 2^x \]

*Over...*