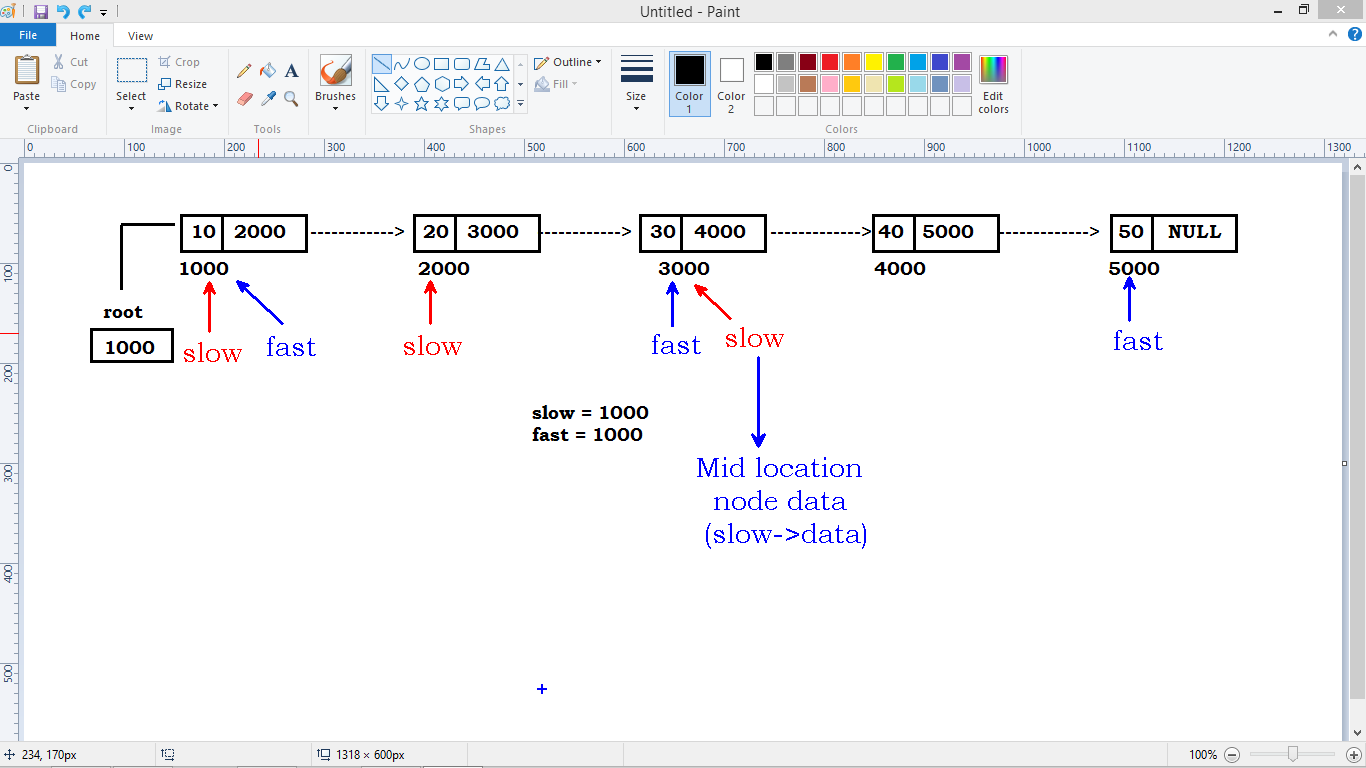
**Slow and Fast Pointer**

**Question: How to find Middle element in Linked List?**

**Answer: Using Fast pointer.**

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* **Insert 10 nodes into list using recursion**
* **Node values 10,20,30,40,50,60,70,80,90,100 (for i=10 ; i<=100 ; i=i+10)**
* **Find the mid location element using fast pointer**

**#include<stdio.h>**

**#include<stdlib.h>**

**struct Node**

**{**

**int data;**

**struct Node\* link;**

**};**

**struct Node\* root=NULL;**

**int length();**

**struct Node\* create(int);**

**struct Node\* insert(struct Node\*,int);**

**int middle();**

**void display();**

**int main()**

**{**

**int i,x;**

**for(i=10 ; i<=100 ; i+=10)**

**{**

**root = insert(root, i);**

**}**

**x = middle();**

**printf("Middle value : %d\n",x);**

**return 0;**

**}**

**struct Node\* create(int ele)**

**{**

**struct Node\* temp;**

**temp=(struct Node\*)malloc(sizeof(struct Node));**

**temp->data=ele;**

**temp->link=NULL;**

**return temp;**

**}**

**struct Node\* insert(struct Node\* temp, int ele)**

**{**

**if(temp==NULL)**

**{**

**return create(ele);**

**}**

**else**

**{**

**temp->link = insert(temp->link,ele);**

**}**

**return temp;**

**}**

**int middle()**

**{**

**struct Node \*fast, \*slow;**

**slow=fast=root;**

**while(fast->link!=NULL && fast->link->link!=NULL)**

**{**

**slow=slow->link;**

**fast=fast->link->link;**

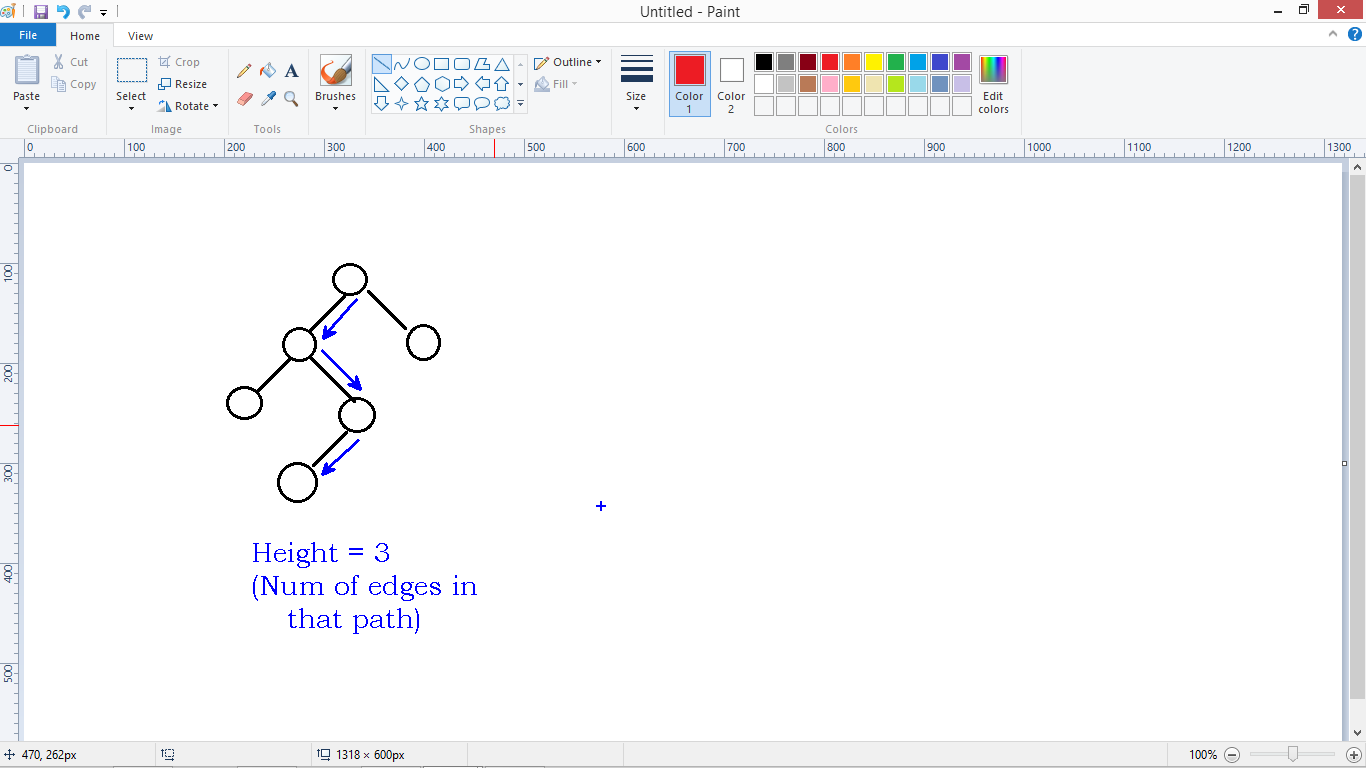
**}**

**return slow->data;**

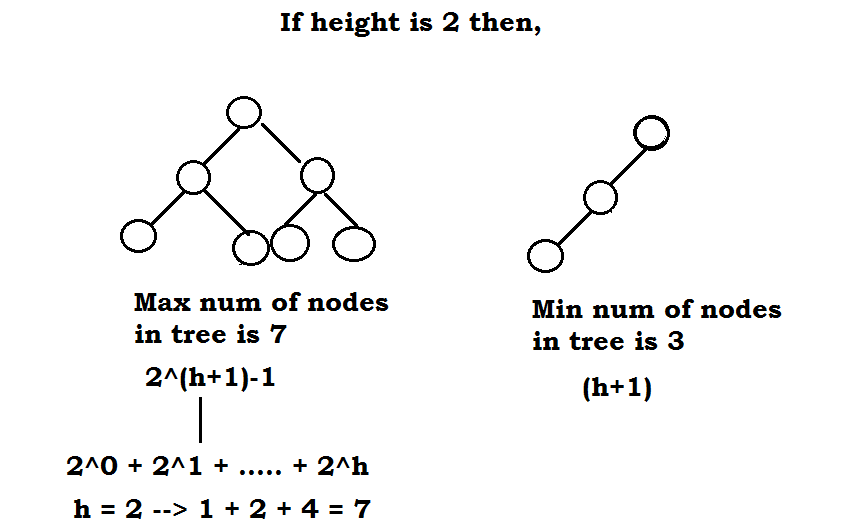
**}**

**Find the height of BST:**

* **The height of BST is the longest path from its root node any leaf node.**

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* **How to find the height with minimum nodes and maximum nodes:**
* **We can find the min and max number of nodes using height of the tree as follows**

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