

Insertion of B Tree ::

\* first initializing  $x$  as root

then if ( $x \neq \text{leaf}$ )  
 then

find child of  $x$  which is going to be traversed next.

suppose (child =  $y$ )

if ( $y \neq \text{full}$ ), then change  $x \rightarrow y$

if ( $y = \text{full}$ )

split it and change  $x$  to point to one of two parts of  $y$ .

if ( $k < \text{mid key}[y]$ )

~~set~~  $x$  as first part of  $y$ .

else

$x$

second part of  $y$

3.

while we split  $y$ , we move a key from  $y$  to its parent 2.

Now when ( $x = \text{leaf}$ )

$x$  must have space for one extra key.

Now simply insert  $k$  to @  $x$ .