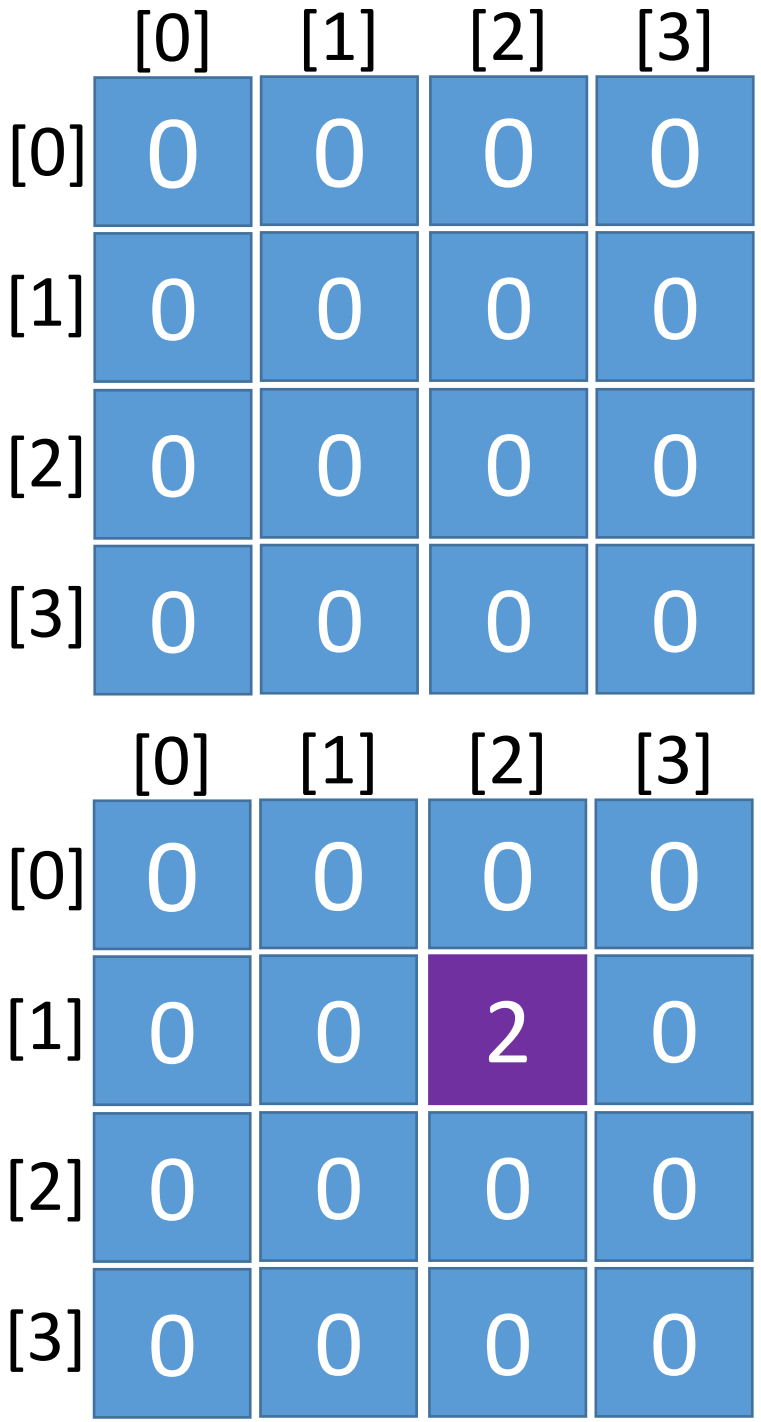
2048

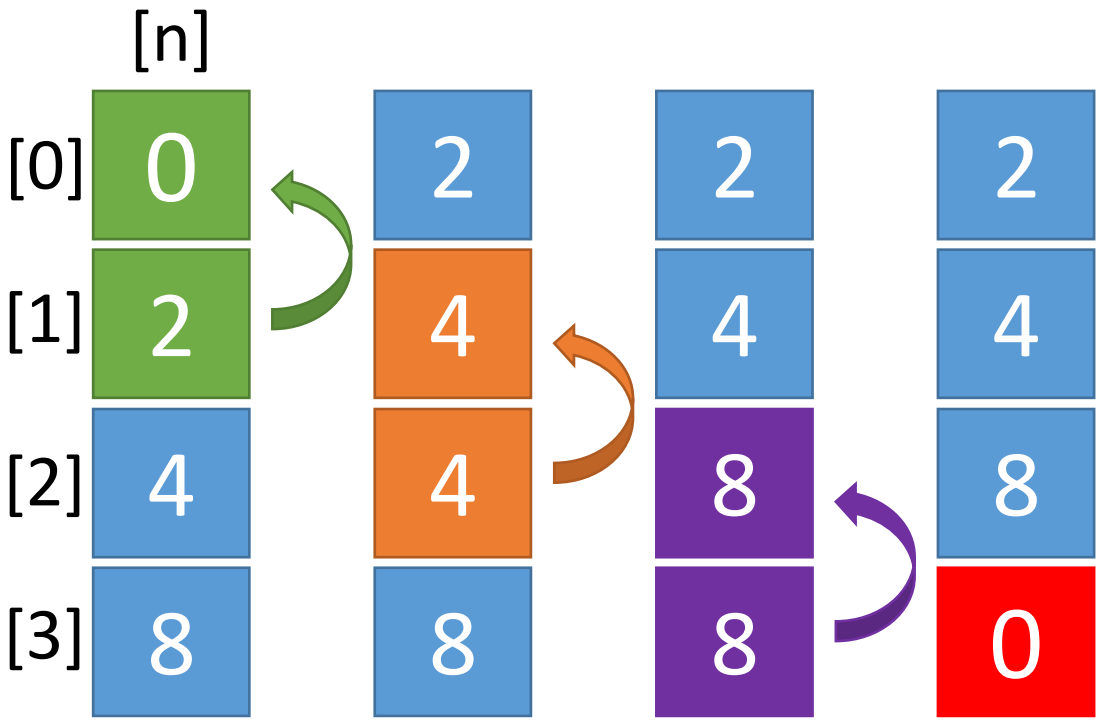
Moving Up

```
//method to add new random tile
   public void picknew ()
   {
         int x = (int) (Math.random () * 4);
         int y = (int) (Math.random () * 4);

         while (b [x] [y] != 0)
         {
            x = (int) (Math.random () * 4);
            y = (int) (Math.random () * 4);
         }

         b [x] [y] = 2;
   }
```

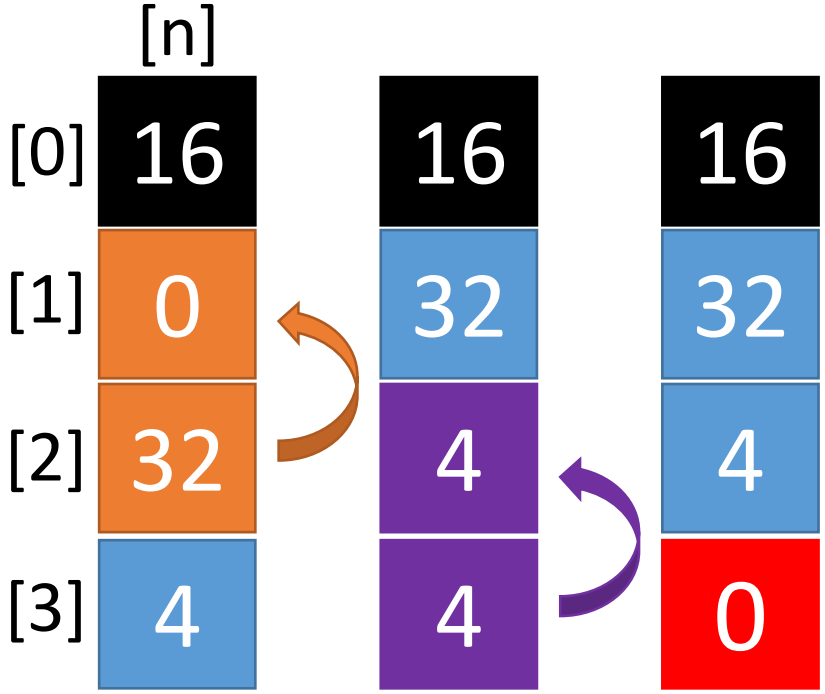
This will crash when the board is full. The final tile cannot place.

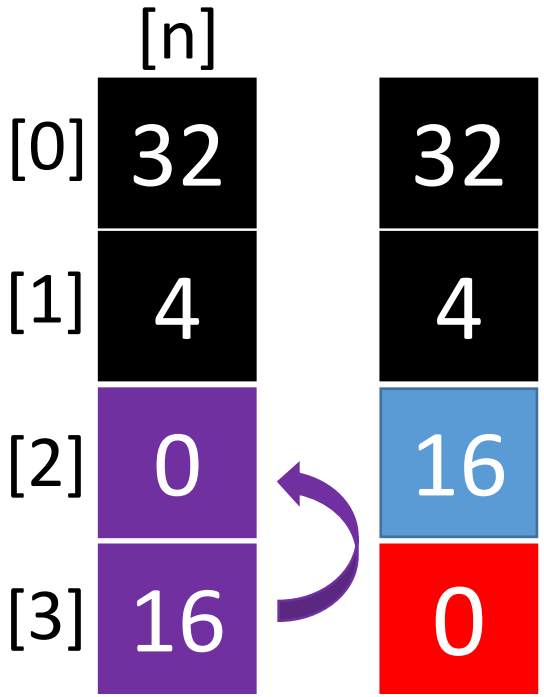


```
//method to move tiles up
   public void ShuffleUp ()
   {
         for (int n = 0 ; n < 4 ; n++)
         {
            for (int i = 0 ; i < 3 ; i++)
            {
                  if (b [0] [n] == 0)
                  {
                     b [0] [n] = b [1] [n];
                     b [1] [n] = b [2] [n];
                     b [2] [n] = b [3] [n];
                     b [3] [n] = 0;
                  }
            }
               //continued….
```

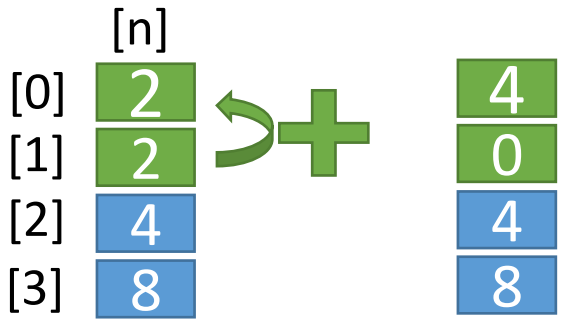


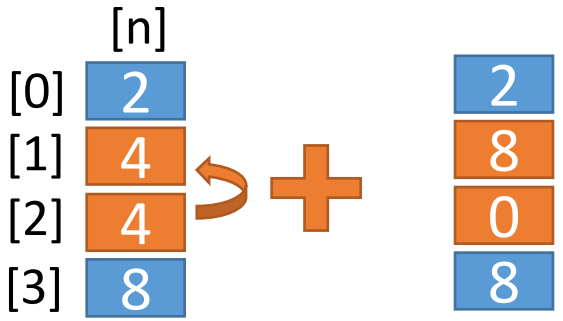
```
//shuffleUp continued
    for (int i = 0 ; i < 2 ; i++)
    {
        if (b [1] [n] == 0)
        {
            b [1] [n] = b [2] [n];
            b [2] [n] = b [3] [n];
            b [3] [n] = 0;
        }
    }

    if (b [2] [n] == 0)
    {
        b [2] [n] = b [3] [n];
        b [3] [n] = 0;
    }
}
}
```

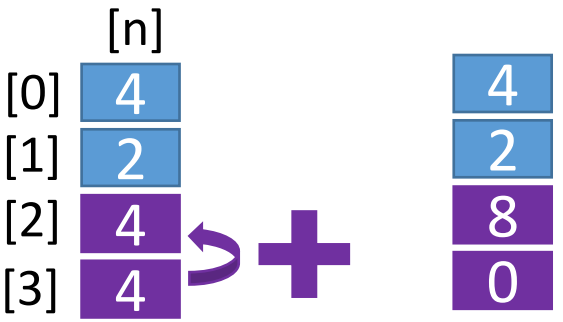




```
//method to add tiles when going up
  public void UpBuddies () {
        for (int n = 0 ; n < 4 ; n++) {
          if (b [1] [n] == b [0] [n]) {
                b [0] [n] += b [1] [n];
                b [1] [n] = 0;
                score += 2;
          }
          if (b [2] [n] == b [1] [n]) {
                b [1] [n] += b [2] [n];
                b [2] [n] = 0;
                score += 2;
          }
          if (b [3] [n] == b [2] [n]) {
                b [2] [n] += b [3] [n];
                b [3] [n] = 0;
                score += 2;
          }
        }
  }
```







```
public void moveUp()
{
    ShuffleUp ();
    UpBuddies ();
    ShuffleUp ();
    ShuffleUp ();
    picknew ();
    picknew ();
    redraw ();
}
```