

Does this program have a bug? How to fix it?

```
def bucketsort(arr, k ):  
    counts = [0] * k  
    for x in arr:  
        counts[x] += 1  
    sorted_arr = []  
    for i, count in enumerate( arr ):  
        sorted_arr.extend([i] * count )  
    return sorted_arr
```

Yes, this program has a bug. The bug is that the variable "counts" is not being initialized correctly. The code should be changed to:

```
def bucketsort(arr, k):  
    counts = [0] * (k+1)  
    for x in arr:  
        counts[x] += 1  
    sorted_arr = []  
    for i, count in enumerate( counts ):  
        sorted_arr.extend([i] * count)  
    return sorted_arr
```