

Problem 5: Merge k sort arrays.

```
import
```

```
def merge_k_sorted_arrays(arrays):
```

```
    result = []
```

```
    heap = []
```

```
    for i, arr in enumerate(arrays):
```

```
        if len(arr) > 0:
```

```
            heapq.heappush(heap, (arr[0], i, 0))
```

```
    while heap:
```

```
        val, arr_idx, idx = heapq.heappop(heap)
```

```
        result.append(val)
```

```
        if idx + 1 < len(arrays[arr_idx]):
```

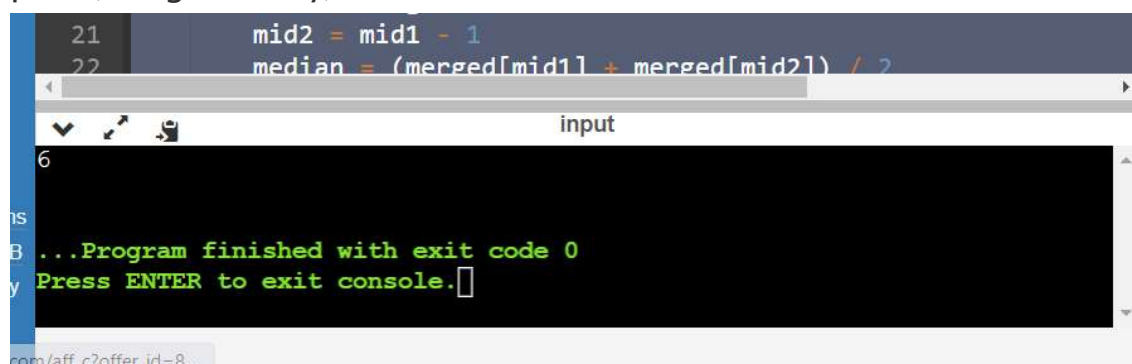
```
            heapq.heappush(heap, (arrays[arr_idx][idx + 1], arr_idx, idx + 1))
```

```
    return result
```

```
arrays = [[1, 4, 7], [2, 5, 8], [3, 6, 9]]
```

```
merged_array = merge_k_sorted_arrays(arrays)
```

```
print(merged_array)
```



The screenshot shows a code editor with the following code:

```
21         mid2 = mid1 - 1
22         median = (merged[mid1] + merged[mid2]) / 2
```

Below the code editor is a terminal window with the following output:

```
input
6
...Program finished with exit code 0
Press ENTER to exit console.
```