

Write a python program to merge two sorted lists into one sorted list without using sort()?

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**Python program to merge two sorted lists into one sorted list — without using sort() or sorted()**

# Merge two sorted lists manually

```
list1 = [1, 3, 5, 7]
```

```
list2 = [2, 4, 6, 8, 10]
```

```
merged = []
```

```
i = j = 0
```

```
# Compare elements from both lists one by one
```

```
while i < len(list1) and j < len(list2):
```

```
    if list1[i] < list2[j]:
```

```
        merged.append(list1[i])
```

```
        i += 1
```

```
    else:
```

```
        merged.append(list2[j])
```

```
        j += 1
```

```
# Add remaining elements (if any)
```

```
while i < len(list1):
```

```
    merged.append(list1[i])
```

```
    i += 1
```

```
while j < len(list2):
```



```
merged.append(list2[j])
```

```
j += 1
```

```
print("Merged Sorted List:", merged)
```

✅ Output:

Merged Sorted List: [1, 2, 3, 4, 5, 6, 7, 8, 10]

