Readme:

As an input from the user, the whole path to the file that has to be worked on has to be given as an Input.

There have been 3 cases mentioned in the problem statement, the output will be according to them. There are more cases that can be encountered.

If the files have the same names but the duplicate keys in them have values with different types(eg child has list and parent has an integer value for the same key), following assumptions are made:

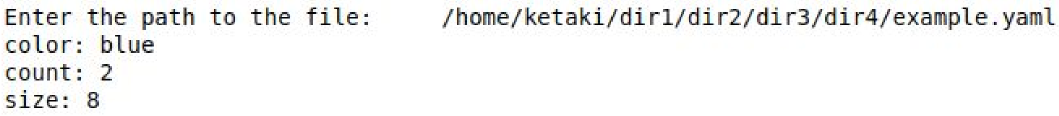
For duplicate keys:

1. If the child's key has an integer/string/float value and the parent's key has int/float/str/list/dict then we will keep the value of key as the integer value of the child.
2. If the child's key has a list value and the parent's key has int/float/str/list/dict then we will append the values of the parent's key to the child's key.
3. If the child's key has a dict value and the parent's key has int/float/str/list then we will ignore the parent's key.

The code ensures that all keys are maintained.

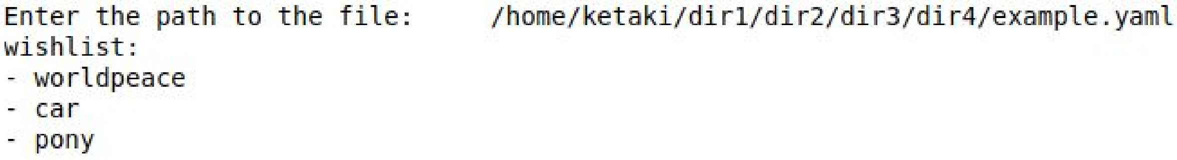
Documentation with test cases:

- The tests were conducted using 2 to 4 files (1 per directory) with the same name.
- The path given as input was '/home/ketaki/dir1/dir2/dir3/dir4/example.yaml'.
- For the test cases, the location of files as well as contents in the files were changed.
- Test case 1: All keys have integer values
    - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml :
      size: 8
      count: 2
    - /home/ketaki/dir1/dir2/dir3/example.yaml :
      size: 12
      color: blue
    - Output:



```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
color: blue
count: 2
size: 8
```

- Test case 2: All keys have list values
    - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml :
      wishlist: ["car", "pony"]
    - /home/ketaki/dir1/dir2/dir3/example.yaml :
      wishlist: ["worldpeace"]
    - Output:



```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
wishlist:
- worldpeace
- car
- pony
```

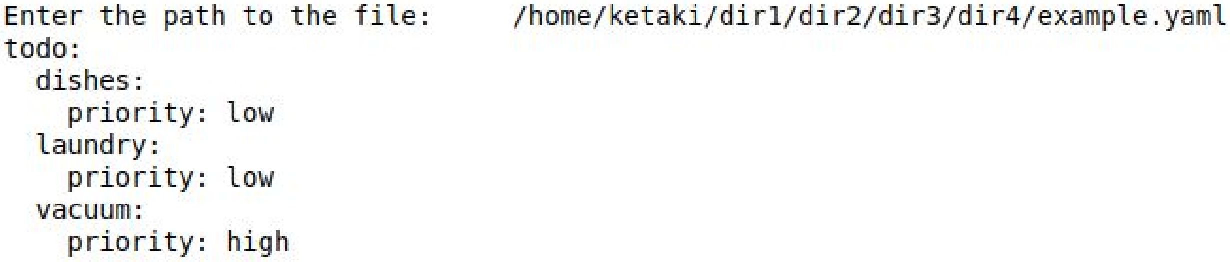
- Test case 3: Nested keys
    - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml :

      ```
      todo:
        vacuum:
          priority: high
        dishes:
          priority: low
      ```

    - /home/ketaki/dir1/dir2/dir3/example.yaml :

      ```
       todo:
        dishes:
          priority: high
        laundry:
          priority: low
      ```

    - Output:

      ```
      Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
      todo:
        dishes:
          priority: low
        laundry:
          priority: low
        vacuum:
          priority: high
      ```

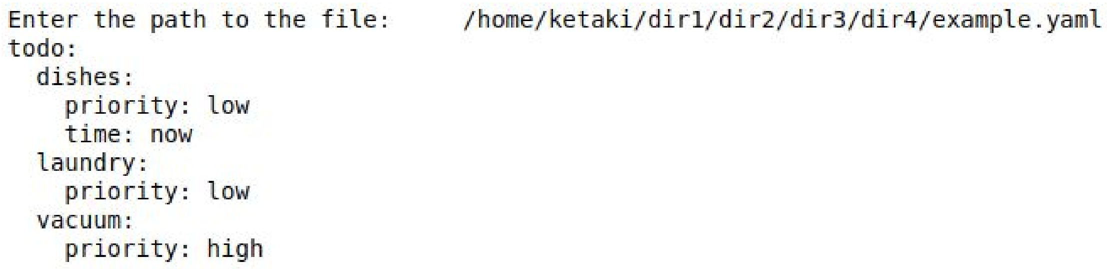
- Test case 4: Nested keys with duplicate keys having different nested keys in them
    - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml

      ```
      todo:
        vacuum:
          priority: high
        dishes:
          priority: low
      ```

    - /home/ketaki/dir1/dir2/dir3/example.yaml

      ```
      todo:
        dishes:
          priority: high
          time: now
        laundry:
          priority: low
      ```

    - Output: (All keys are preserved)

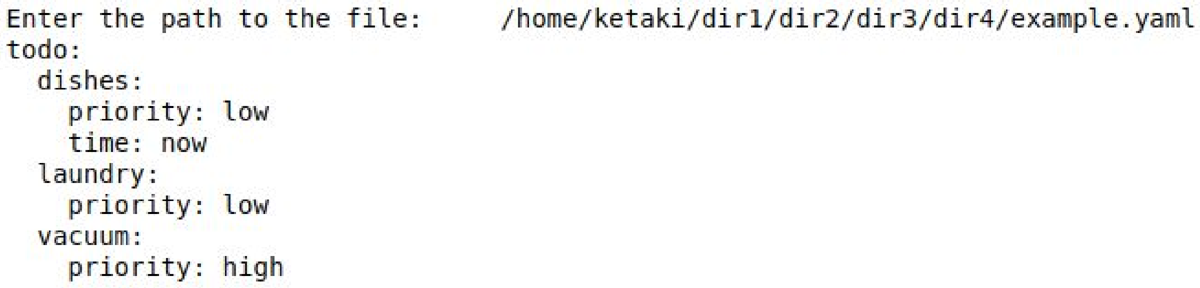


```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
todo:
  dishes:
    priority: low
    time: now
  laundry:
    priority: low
  vacuum:
    priority: high
```

- Test case 5: Nested keys with duplicate keys having different nested keys in them
  - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml

    ```
    todo:
     vacuum:
      priority: high
     dishes:
      priority: low
      Time: now
    ```
  - /home/ketaki/dir1/dir2/dir3/example.yaml

    ```
    todo:
     dishes:
      priority: high
     laundry:
      priority: low
    ```
  - Output: (All keys are preserved)

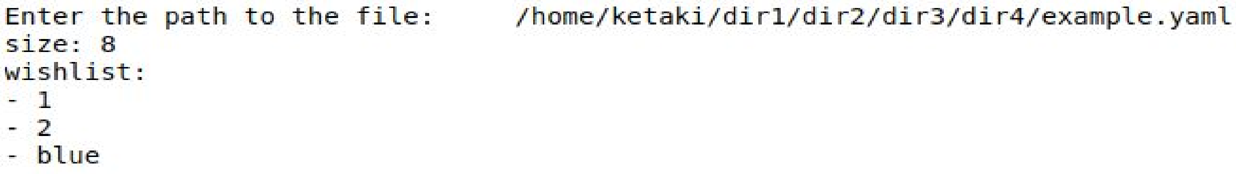


```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
todo:
  dishes:
    priority: low
    time: now
  laundry:
    priority: low
  vacuum:
    priority: high
```

- Test case 6: child's duplicate key is a list and parent's duplicate key is a string
  - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml

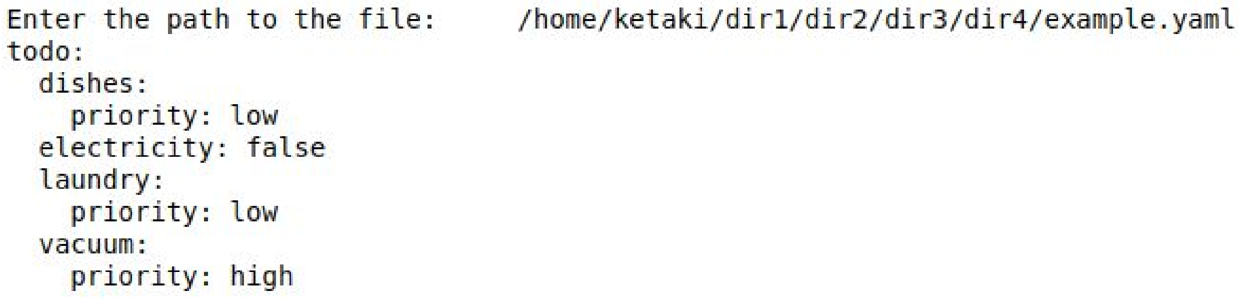
    ```
    wishlist: [1, 2]
    ```
  - /home/ketaki/dir1/dir2/dir3/example.yaml

    ```
    wishlist: blue
    size: 8
    ```
  - Output:



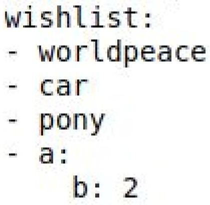
```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
size: 8
wishlist:
- 1
- 2
- blue
```

- Test case 7: child’s duplicate key is a dict and parent’s duplicate key is a list
  - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
    ```
    todo:
      vacuum:
        priority: high
      dishes:
        priority: low
    ```
  - /home/ketaki/dir1/dir2/dir3/example.yaml
    ```
    todo:
      dishes: 8
      Electricity: off
      laundry:
        priority: low
    ```
  - Output: (All keys are preserved)



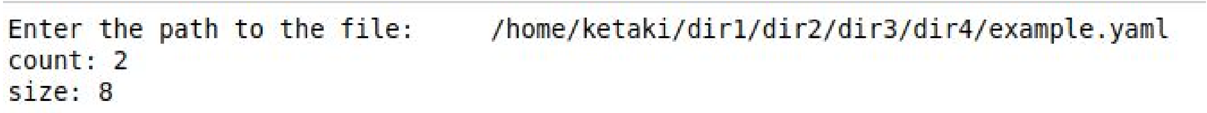
```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
todo:
  dishes:
    priority: low
  electricity: false
  laundry:
    priority: low
  vacuum:
    priority: high
```

- Test case 8: child, first parent directory and second parent directory all have the files with the same name
  - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
    ```
    wishlist: ["worldpeace"]
    ```
  - /home/ketaki/dir1/dir2/dir3/example.yaml
    ```
    wishlist: ["car", "pony"]
    ```
  - /home/ketaki/dir1/dir2/example.yaml
    ```
    wishlist:
       a:
         b: 2
    ```
  - Output: (All keys are preserved)



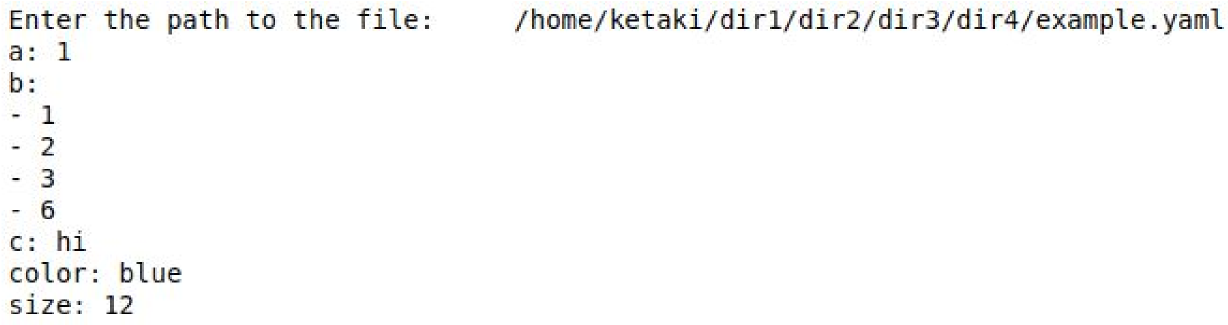
```
wishlist:
- worldpeace
- car
- pony
- a:
    b: 2
```

- Test case 9: First parent directory doesn’t have the file but the second parent directory has it.
  - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
    size: 8
    count: 2
  - /home/ketaki/dir1/dir2/example.yaml
    size: 12
    color: blue
  - Output:



```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
count: 2
size: 8
```

- Test case 10: Four directories have the same file
  - /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
    a: 1
  - /home/ketaki/dir1/dir2/dir3/example.yaml
    a: 2
    b: [1,2,3]
  - /home/ketaki/dir1/dir2/example.yaml
    b: 6
    c: hi
  - /home/ketaki/dir1/example.yaml
    size: 12
    color: blue
  - Output:



```
Enter the path to the file:     /home/ketaki/dir1/dir2/dir3/dir4/example.yaml
a: 1
b:
- 1
- 2
- 3
- 6
c: hi
color: blue
size: 12
```