

13-08-2024

DAILY TASK

1. Create a Java class with user defined exception handling

CODE:

```
public class InvalidAgeException extends Exception {
    public InvalidAgeException(String message) {
        super(message);
    }
}

public class User {
    private String name;
    private int age;

    public User(String name, int age) throws InvalidAgeException {
        if (age < 0 || age > 150) {
            throw new InvalidAgeException("Age must be between 0 and 150.");
        }
        this.name = name;
        this.age = age;
    }

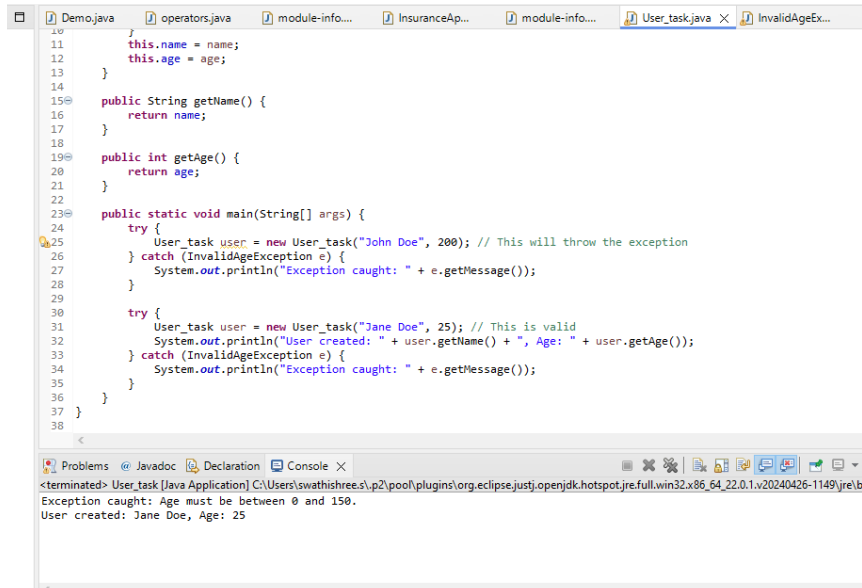
    public String getName() {
        return name;
    }

    public int getAge() {
        return age;
    }

    public static void main(String[] args) {
        try {
            User user = new User("John Doe", 200); // This will throw the exception
        } catch (InvalidAgeException e) {
            System.out.println("Exception caught: " + e.getMessage());
        }

        try {
            User user = new User("Jane Doe", 25); // This is valid
            System.out.println("User created: " + user.getName() + ", Age: " + user.getAge());
        } catch (InvalidAgeException e) {
            System.out.println("Exception caught: " + e.getMessage());
        }
    }
}
```

OUTPUT:



```
10  
11     this.name = name;  
12     this.age = age;  
13 }  
14  
15 public String getName() {  
16     return name;  
17 }  
18  
19 public int getAge() {  
20     return age;  
21 }  
22  
23 public static void main(String[] args) {  
24     try {  
25         User_task user = new User_task("John Doe", 200); // This will throw the exception  
26     } catch (InvalidAgeException e) {  
27         System.out.println("Exception caught: " + e.getMessage());  
28     }  
29  
30     try {  
31         User_task user = new User_task("Jane Doe", 25); // This is valid  
32         System.out.println("User created: " + user.getName() + ", Age: " + user.getAge());  
33     } catch (InvalidAgeException e) {  
34         System.out.println("Exception caught: " + e.getMessage());  
35     }  
36 }  
37 }  
38  
Problems Javadoc Declaration Console  
<terminated> User_task [Java Application] C:\Users\swathishree.s\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64.22.0.1.v20240426-1149\jre\bin  
Exception caught: Age must be between 0 and 150.  
User created: Jane Doe, Age: 25
```

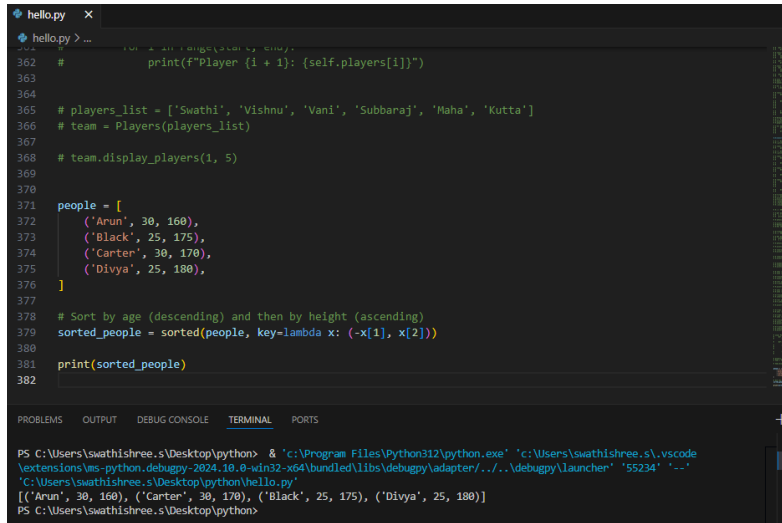
2. Modify below sorted list of user with name, age and height such that age can be descending and height as ascending using python

```
“people = [  
    ('Arun', 30, 160),  
    ('Black', 25, 175),  
    ('Carter', 30, 170),  
    ('Divya', 25, 180),  
]  
# Sort by age (ascending) and then by height (descending)  
sorted_people = sorted(people, key=lambda x: (x[1], -x[2]))  
print(sorted_people)”
```

CODE:

```
people = [  
    ('Arun', 30, 160),  
    ('Black', 25, 175),  
    ('Carter', 30, 170),  
    ('Divya', 25, 180),  
]  
  
sorted_people = sorted(people, key=lambda x: (-x[1], x[2]))  
  
print(sorted_people)
```

OUTPUT:



```
362 # print(f"Player {i + 1}: {self.players[i]}")
363
364
365 # players_list = ['Swathi', 'Vishnu', 'Vani', 'Subbaraj', 'Maha', 'Kutta']
366 # team = Players(players_list)
367
368 # team.display_players(1, 5)
369
370
371 people = [
372     ('Arun', 30, 160),
373     ('Black', 25, 175),
374     ('Carter', 30, 170),
375     ('Divya', 25, 180),
376 ]
377
378 # Sort by age (descending) and then by height (ascending)
379 sorted_people = sorted(people, key=lambda x: (-x[1], x[2]))
380
381 print(sorted_people)
382
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\swathishree.s\Desktop\python> & 'c:\Program Files\Python312\python.exe' 'c:\Users\swathishree.s\vscode\extensions\ms-python.debugpy-2024.10.0-win32-x64\bundled\libs\debugpy\adapter\..\..\debugpy\launcher' '55234' '-'
'C:\Users\swathishree.s\Desktop\python\hello.py'
[('Arun', 30, 160), ('Carter', 30, 170), ('Black', 25, 175), ('Divya', 25, 180)]
PS C:\Users\swathishree.s\Desktop\python>
```

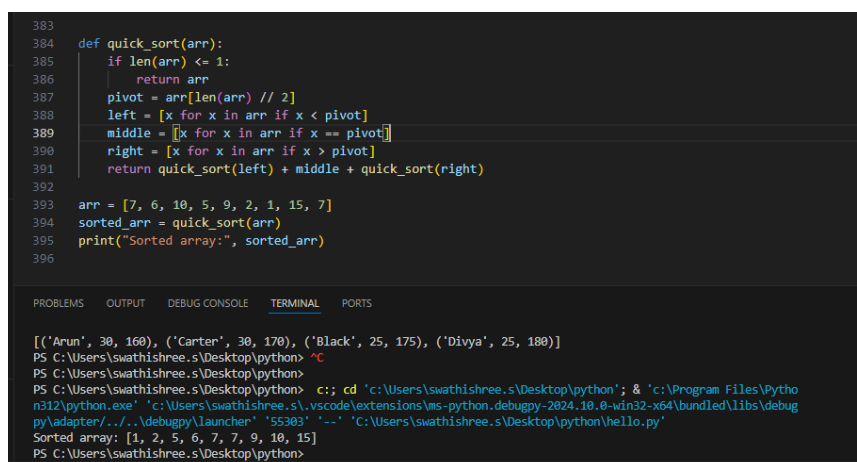
3. Implement quick sort and display sorted values for [7,6,10,5,9,2,1,15,7] using java or python

CODE:

```
def quick_sort(arr):
    if len(arr) <= 1:
        return arr
    pivot = arr[len(arr) // 2]
    left = [x for x in arr if x < pivot]
    middle = [x for x in arr if x == pivot]
    right = [x for x in arr if x > pivot]
    return quick_sort(left) + middle + quick_sort(right)
```

```
arr = [7, 6, 10, 5, 9, 2, 1, 15, 7]
sorted_arr = quick_sort(arr)
print("Sorted array:", sorted_arr)
```

OUTPUT:



```
383
384 def quick_sort(arr):
385     if len(arr) <= 1:
386         return arr
387     pivot = arr[len(arr) // 2]
388     left = [x for x in arr if x < pivot]
389     middle = [x for x in arr if x == pivot]
390     right = [x for x in arr if x > pivot]
391     return quick_sort(left) + middle + quick_sort(right)
392
393 arr = [7, 6, 10, 5, 9, 2, 1, 15, 7]
394 sorted_arr = quick_sort(arr)
395 print("Sorted array:", sorted_arr)
396
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
[('Arun', 30, 160), ('Carter', 30, 170), ('Black', 25, 175), ('Divya', 25, 180)]
PS C:\Users\swathishree.s\Desktop\python> ^C
PS C:\Users\swathishree.s\Desktop\python>
PS C:\Users\swathishree.s\Desktop\python> c:: cd 'c:\Users\swathishree.s\Desktop\python'; & 'c:\Program Files\Python312\python.exe' 'c:\Users\swathishree.s\vscode\extensions\ms-python.debugpy-2024.10.0-win32-x64\bundled\libs\debugpy\adapter\..\..\debugpy\launcher' '55303' '-' 'C:\Users\swathishree.s\Desktop\python\hello.py'
Sorted array: [1, 2, 5, 6, 7, 7, 9, 10, 15]
PS C:\Users\swathishree.s\Desktop\python>
```