



Python-3 Homework

1. Cricketer's Jersey Filter

Input: `players = [('Kohli', 18), ('Dhoni', 7), ('Rohit', 45), ('Pant', 17)]`

Task: Print the names of players whose jersey numbers are multiples of 3.

Expected Output: `['Kohli']`

2. Football Match Winner

Input: `match_scores = {'TeamA': 3, 'TeamB': 2}`

Task: Print which team won or print "Draw".

Expected Output: `"TeamA wins"`

3. Scientific Term Extraction

Input: `text = "The mitochondria is the powerhouse of the cell"`

Task: Extract and print the word that comes after "is".

Expected Output: `"the"`

4. Patient Fever Detection

Input: `patients = {'John': 98.6, 'Priya': 101.4, 'Ali': 99.0, 'Neha': 103.5}`

Task: Print names of patients who have a temperature above 100.

Expected Output: `['Priya', 'Neha']`

5. Player Name Validator

Input: `player_names = ['Messi', 'Neymar', 'Mbappe', 'Suarez']`

Task: Print all names with length greater than 5.

Expected Output: `['Neymar', 'Mbappe', 'Suarez']`

6. 🏏 Strike Rate Calculator

Input: `runs = 45, balls = 30`

Task: Calculate strike rate as $(\text{runs} / \text{balls}) * 100$ and round to 2 decimals.

Expected Output: `150.0`

7. 🧪 Even-Length Words

Input: `sentence = "Science needs logic and curiosity"`

Task: Print only the words with even number of letters.

Expected Output: `['needs', 'logic', 'and']`

8. 🏥 Filter Stable Patients

Input:

```
patients = [  
    {'name': 'Amit', 'bp': 120},  
    {'name': 'Sara', 'bp': 140},  
    {'name': 'Mike', 'bp': 130}  
]
```

Task: Print patients with `bp < 130`.

Expected Output: `['Amit']`

9. ⚽ Goal Difference Detector

Input: `match = {'TeamA': 2, 'TeamB': 2}`

Task: If it's a draw, print "Extra Time". Else print goal difference.

Expected Output: `"Extra Time"`

10. 🏏 Last Name Initials

Input: `players = ['Virat Kohli', 'MS Dhoni', 'Rohit Sharma']`

Task: Print initials of last names.

Expected Output: `['K', 'D', 'S']`

11. Reverse All Words

Input: "experiment successful theory failed"

Task: Reverse each word but maintain order.

Expected Output: "tnemirepxe lufsseccus yroeht deliaf"

12. Patients with Odd Age

Input:

```
patients = [  
    {'name': 'John', 'age': 28},  
    {'name': 'Anita', 'age': 35},  
    {'name': 'Karan', 'age': 30}  
]
```

Task: Print names of patients with odd ages.

Expected Output: ['Anita']

13. Goals from Top 3 Players

Input:

```
goals = {  
    'Ronaldo': 9,  
    'Messi': 13,  
    'Neymar': 7,  
    'Mbappe': 11  
}
```

Task: Print top 3 players by goals scored.

Expected Output: ['Messi', 'Mbappe', 'Ronaldo']

14. Player Score Filter

Input:

```
scores = {  
    'Gill': 52,  
    'Kohli': 90,  
    'Dhawan': 38,  
    'Pant': 64  
}
```

Task: Print player names who scored above 50.

Expected Output: ['Gill', 'Kohli', 'Pant']

15. 🧪 Letters with Even ASCII

Input: "biology"

Task: Print characters from the string whose ASCII value is even.

Expected Output: ['b', 'l', 'g']

16. 🏥 Patient BMI Checker

Input:

```
patients = [  
    {'name': 'Ankit', 'height': 1.7, 'weight': 70},  
    {'name': 'Neha', 'height': 1.6, 'weight': 55}  
]
```

Task: Calculate BMI = weight / (height ** 2) and print name if BMI > 24.

Expected Output: ['Ankit']

17. ⚽ Players with Goals in Even Matches

Input: goals = [0, 1, 2, 0, 3, 2] (each index = match number)

Task: Print total goals scored in even-numbered matches (0-based indexing).

Expected Output: 0 + 2 + 3 = 5

18. 🎨 Century Maker Filter

Input: `players = {'Rahul': 75, 'Kohli': 102, 'Rohit': 120}`

Task: Print players who scored 100 or more.

Expected Output: `['Kohli', 'Rohit']`

19. Count Vowels in Sentence

Input: `"Einstein had a creative mind"`

Task: Count and print the total number of vowels.

Expected Output: `11`

20. Hospital Room Assignment

Input: `patients = ['Amit', 'Neha', 'John', 'Sara']`

Task: Assign rooms in format: Room-1: Amit, Room-2: Neha...

Expected Output: `['Room-1: Amit', 'Room-2: Neha', 'Room-3: John', 'Room-4: Sara']`

21. Sort Players by Name Length

Input: `['Messi', 'Cristiano', 'Pele', 'Maradona']`

Task: Sort and print names in increasing order of their length.

Expected Output: `['Pele', 'Messi', 'Maradona', 'Cristiano']`

22. Find Duplicates in Team List

Input: `['Kohli', 'Dhoni', 'Rohit', 'Kohli', 'Pant']`

Task: Identify and print duplicate names.

Expected Output: `['Kohli']`

23. Word Count Dictionary

Input: `"gravity is force and force is mass times acceleration"`

Task: Count frequency of each word.

Expected Output:

```
{'gravity': 1, 'is': 2, 'force': 2, 'and': 1, 'mass': 1, 'times': 1, 'acceleration': 1}
```

24. 🏠 Risk Category Based on Age

Input: `patients = [25, 60, 45, 72, 15]`

Task: Print "High" for age ≥ 60 , "Medium" for 40–59, "Low" otherwise.

Expected Output: `['Low', 'High', 'Medium', 'High', 'Low']`

25. ⚽ Total Goals Per Match Day

Input:

```
matches = [  
    {'day': 'Mon', 'goals': [1, 2]},  
    {'day': 'Tue', 'goals': [0, 3]},  
    {'day': 'Wed', 'goals': [2, 2]}  
]
```

Task: Calculate and print total goals for each day.

Expected Output:

```
{'Mon': 3, 'Tue': 3, 'Wed': 4}
```