

Solution 25: Python Dictionary Traversal

1) Quick facts (fill in the blanks)

1. keys
 2. pairs
 3. key
-

2) Print keys (what does it print?)

```
Amy  
Ben  
Chloe
```

3) Keys + look up values (fix the bug)

Corrected code:

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1}

for player in scoreboard:
    score = scoreboard[player]
    print(player, score)
```

4) Values only (write code)

One correct solution:

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1}

for player in scoreboard:
    print(scoreboard[player])
```

5) `.items()` (fill in the blank)

```
scoreboard.items()
```

6) Running total (what does it print?)

```
3  
8  
9  
done
```

7) Count meets a rule (write code)

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1, "Drew": 4}

count = 0
for player, score in scoreboard.items():
    if score >= 4:
        count = count + 1

print(count)
```

8) Collect names (write code)

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1, "Drew": 4}

winners = []
for player, score in scoreboard.items():
    if score >= 3:
        winners.append(player)

print(winners)
```

9) Find the winner (fill in the blanks)

- First blank: `best`
- Second blank: `score`
- Third blank: `player`

Filled code:

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1, "Drew": 4}

winner = None
best = -1

for player, score in scoreboard.items():
    if score > best:
        best = score
        winner = player

print(winner, best)
```

10) Find the lowest score (write code)

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1, "Drew": 4}

loser = None
worst = 10**9

for player, score in scoreboard.items():
    if score < worst:
        worst = score
        loser = player

print(loser, worst)
```

11) Tie for best (write code)

```
scoreboard = {"Amy": 5, "Ben": 5, "Chloe": 1, "Drew": 4}

best = -1
for player, score in scoreboard.items():
    if score > best:
        best = score

winners = []
for player, score in scoreboard.items():
    if score == best:
        winners.append(player)

print(best)
print(winners)
```

12) Average score (write code)

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1, "Drew": 4}

total = 0
count = 0

for player, score in scoreboard.items():
    total = total + score
    count = count + 1

avg = total / count
print(avg)
```

13) Print like a scoreboard (write code)

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1}

for player, score in scoreboard.items():
    print(player + ":", score)
```

14) Even scores (write code)

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 2, "Drew": 4}

for player, score in scoreboard.items():
    if score % 2 == 0:
        print(player)
```

15) Build a new dictionary (write code)

```
scoreboard = {"Amy": 3, "Ben": 5, "Chloe": 1}

double_score = {}
for player, score in scoreboard.items():
    double_score[player] = score * 2

print(double_score)
```

16) Total points for names starting with a letter (write code)

```
scoreboard = {"Amy": 3, "Alex": 2, "Ben": 5, "Ava": 4}

total_a = 0
for player, score in scoreboard.items():
    if player[0] == "A":
        total_a = total_a + score

print(total_a)
```