Topic 03: Python Containers

Problem 1. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
total = 0
total += xs[0]
total += xs[1]
total += xs[-3]
print('total=', total)
```

Fraction of LLMs with correct answer: 5 / 19 = 0.26

Problem 2. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
total = 0
total += xs[3]
total += xs[-1]
total += xs[0]
print('total=', total)
```

Fraction of LLMs with correct answer: 7 / 19 = 0.37

Problem 3. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
total = 0
total += xs[5]
total += xs[-5]
total += xs[-4]
print('total=', total)
```

Fraction of LLMs with correct answer: 3 / 19 = 0.16

Problem 4. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[3:5]
total = 0
total += ys[0]
total += ys[1]
total += ys[-1]
print('total=', total)
```

Fraction of LLMs with correct answer: 2 / 19 = 0.11

Problem 5. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[-5:-3]
total = 0
total += ys[0]
total += ys[1]
total += ys[-1]
print('total=', total)
```

Fraction of LLMs with correct answer: 2 / 19 = 0.11

Problem 6. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[-5:-3]
total = len(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 17 / 19 = 0.89

Problem 7. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[-5:-3]
total = sum(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 4 / 19 = 0.21

Problem 8. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[-3:-5]
total = sum(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 17 / 19 = 0.89

Problem 9. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[-3:-5:-1]
total = sum(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 3 / 19 = 0.16

Problem 10. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[:3]
total = sum(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 16 / 19 = 0.84

Problem 11. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[:3]
total = min(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 17 / 19 = 0.89

Problem 12. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[:3]
total = max(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 11 / 15 = 0.73

Problem 13. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[7:]
total = sum(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 5 / 15 = 0.33

Problem 14. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
ys = xs[-3:]
total = sum(ys)
print('total=', total)
```

Fraction of LLMs with correct answer: 11 / 15 = 0.73

Problem 15. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
total = 0
for i in range(3):
    total += xs[i]
print('total=', total)
```

Fraction of LLMs with correct answer: 14 / 15 = 0.93

Problem 16. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
total = 0
for i in range(3, 8, 2):
    total += xs[i]
print('total=', total)
```

Fraction of LLMs with correct answer: 1 / 15 = 0.07

Problem 17. What is the output of the following python code?

```
xs = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21]
total = 0
for i in range(-3, -6, -1):
    total += xs[i]
print('total=', total)
```

Fraction of LLMs with correct answer: 3 / 15 = 0.20

Problem 18. What is the output of the following python code?

```
xs = [1, 3, 5]
total = 0
for x in xs:
    total += x
print('total=', total)
```

Fraction of LLMs with correct answer: 14 / 15 = 0.93

Problem 19. What is the output of the following python code?

```
xs = [1, 3, 5]
total = 0
for x in xs:
    for i in range(3):
        total += x*i
print('total=', total)
```

Fraction of LLMs with correct answer: 4 / 15 = 0.27

Problem 20. What is the output of the following python code?

```
xs = [1, 3, 5]
ys = [2, 4, 6]
total = 0
for x in xs:
    total += x
    for y in ys:
        total -= x*y
print('total=', total)
```

Fraction of LLMs with correct answer: 1 / 15 = 0.07

Problem 21. What is the output of the following python code?

```
xss = [[1, 3, 5], [2, 4], [0, 1, 2, 3, 4, 5]]
total = 0
total += xss[0][0]
total += xss[1][1]
total += xss[2][2]
print('total=', total)
```

Fraction of LLMs with correct answer: 4 / 15 = 0.27

Problem 22. What is the output of the following python code?

```
xss = [[1, 3, 5], [2, 4], [0, 1, 2, 3, 4, 5]]
total = 0
total += xss[1][0]
total += xss[0][1]
total += xss[0][2]
print('total=', total)
```

Fraction of LLMs with correct answer: 3 / 15 = 0.20

Problem 23. What is the output of the following python code?

```
xss = [[1, 3, 5], [2, 4], [0, 1, 2, 3, 4, 5]]
total = 0
for xs in xss:
    total += xs[0]
    for x in xs:
        total += x
print('total=', total)
```

Fraction of LLMs with correct answer: 0 / 15 = 0.00

Problem 24. What is the output of the following python code?

```
xss = [[1, 3, 5], [2, 4], [0, 1, 2, 3, 4, 5]]
total = 0
for i in range(2):
    for j in range(len(xss[i])):
        total += xss[i][-j]
print('total=', total)
```

Fraction of LLMs with correct answer: 1 / 15 = 0.07

Problem 25. What is the output of the following python code?

```
xss = [[1, 3, 5], [2, 4], [0, 1, 2, 3, 4, 5]]
total = 0
for i in range(2):
    for j in range(len(xss[i])):
        total += xss[i][-j]
print('total=', total)
```

Fraction of LLMs with correct answer: 2 / 15 = 0.13

Problem 26. What is the output of the following python code?

```
x = 10
def foo(x):
    if x - 5:
        return 1
    else:
        x += 1
    return x
x += foo(4)
x += foo(5)
x += foo(6)
print("x=", x)
```

Fraction of LLMs with correct answer: 0 / 15 = 0.00

Problem 27. What is the output of the following python code?

```
x = 10
def foo(x):
    x += 2
    return x
x += foo(9 + 39 // 10) * 3
x += foo(9 + 19 // 10) * 2
print("x=", x)
```

Fraction of LLMs with correct answer: 1 / 15 = 0.07

Problem 28. What is the output of the following python code?

```
x = 10
def foo(x):
    if x % 2:
        return 1
    x -= 1
    return x
x += foo(4)
x += foo(5)
x += foo(6)
print("x=", x)
```

Fraction of LLMs with correct answer: 1 / 15 = 0.07

Problem 29. What is the output of the following python code?

```
x = 10
def foo(x):
    x += 1
    return x
x += foo(9 + 39 // 10) * 2
print("x=", x)
```

Fraction of LLMs with correct answer: 0 / 15 = 0.00

Problem 30. What is the output of the following python code?

```
x = 10
def foo(x):
    return x * 2
for i in range(3):
    x += foo(i)
print("x=", x)
```

Fraction of LLMs with correct answer: 7 / 15 = 0.47

Problem 31. What is the output of the following python code?

```
x = 10
def foo(x):
    if x - 5:
        return 1
    else:
        x -= 1
    return x
x += foo(4)
x += foo(5)
x += foo(6)
print("x=", x)
```

Fraction of LLMs with correct answer: 2 / 15 = 0.13

Problem 32. What is the output of the following python code?

```
x = 10
def foo(x):
    x += 2
    return x
x += foo(9 + 39 // 10) * 3
x += foo(9 + 39 // 10) * 2
print("x=", x)
```

Fraction of LLMs with correct answer: 0 / 15 = 0.00

Problem 33. What is the output of the following python code?

```
def foo(x):
    total = 0
    while x > 0:
        total += 1
        x //= 10
    return total
x = foo(100)
x += foo(1234567)
x += foo(3)
print("x=", x)
```

Fraction of LLMs with correct answer: 5 / 15 = 0.33

Problem 34. What is the output of the following python code?

```
def foo(x):
    total = 0
    while x > 0:
        total = total + x % 10
        x //= 10
    return total
x = foo(100)
x += foo(1234567)
x += foo(3)
print("x=", x)
```

Fraction of LLMs with correct answer: 0 / 15 = 0.00

LLM Model Performance