

CSCI 145 Quiz 3 practice questions on conditionals and loops

1. Evaluate each expression. Write True or False.

`7 % 2 == 1 and 4 > 6` _____ `12 % 5 != 2 or 3 <= 3` _____

`not 4 >= 4 or 6 % 4 == 2` _____

2. Consider this code:

```
if temp >= 80:
    print("hot")
elif temp >= 70:
    print("warm")
elif temp >= 50:
    print("cool")
else:
    print("cold")
```

What does it print when temp is:

a) 70 _____

b) 50 _____

c) 30 _____

3. Consider this code:

```
n = 12
if n % 2 == 0:
    print("even")
if n % 3 == 0:
    print("multiple of 3")
if n > 10:
    print("big")
```

a) What does this code print?

b) What does it print if the second and third if are each changed to elif?

4. Write the exact output of each snippet, one printed value per line.

A

```
x = 1
while x < 20:
    print(x)
    x = x * 3
```

B

```
k = 10
while k < 10:
    print(k)
    k = k + 1
print("end")
```

C

```
for i in range(1, 8, 3):
    print(i)
```

5. For each loop, circle whether it stops or never stops, and explain why in one line.

A

```
i = 10
while i > 0:
    print(i)
    i = i + 2
```

stops never stops

Why: _____

B

```
n = 1
while n != 10:
    print(n)
    n = n + 2
```

stops never stops

Why: _____

6. List the values each range produces, in order.

range(6) _____ range(4, 9) _____

range(10, 30, 5) _____

How many times does the body of `for i in range(3, 15):` run? _____

7. Fill in the blanks so the while loop prints exactly the same values as the for loop.

for

```
for i in range(5, 50, 5):
    print(i)
```

while

```
i = _____
while _____:
    print(i)
    _____
```

8. Write a function `ticket_price(age)` that returns the price of a movie ticket. If age is less than 3, it returns 0. If age is from 3 to 12, or 65 or older, it returns 8. Otherwise, it returns 12. For example:

```
>>> ticket_price(2)
0
>>> ticket_price(70)
8
>>> ticket_price(30)
12
```

9. Write a function `print_halves(n)` that uses a while loop to print `n`, then `n // 2`, then half of that (using `//`), and so on, one per line, as long as the number is greater than 0. If `n` is 0 or negative, it prints nothing. The function does not return a value. For example:

```
>>> print_halves(20)
20
10
5
2
1
```