Name: _____

Fall 2025: COMP 141
Exam 1

In keeping with the spirit of the Rhodes College Honor Code, please sign below to indicate you agree with the following statement: "I pledge that I have neither given nor received help on this exam."

Signature: _____

- Show your thinking if you need to.
- Ask if you have a question.
- **For every question, on the margin, mark the question:**
    - **Checkmark:** "I think I know this."
    - **Star:** "I know I should know this, but I don't or I'm not exactly sure."
    - **X:** "I don't think we went over this, or the question feels a little unfair."
- **Before you begin:**
    - I understand about ____% of the course material so far.
    - Assign a fair numeric grade (out of 100) to each of the following possibilities:
        - ___ - 0 completely correct traces
        - ___ - 1 completely correct trace
        - ___ - 2 completely correct traces
        - ___ - 3 completely correct traces
        - ___ - 4 completely correct traces
        - ___ - 5 completely correct traces
        - ___ - 6 completely correct traces
- **After you've graded your test:**
    - I think a ____ (letter or number) is a fair grade for me for this test.

Course Feedback

Is there anything you want to say about the course that could help me provide better instruction or a better experience? Responses will not affect your grade.

TRACE

For each problem:

- Create a section for globally scoped variables. Record their values as they change.
- Create a section for "output". Record exactly what will be printed out.
- Create a section for each function and its locally scoped variables, including different calls to the same function. Record the values of the local variables as they change.
- You are allowed to *just* state outputs, **but if you are wrong, you will not get partial credit.**

1.
```
x = 12
cond1 = x < 10 or x > 15
print(cond1, end=" -> ")

cond2 = x > 6 and x <= 7
print(cond2, end=" -> ")

cond3 = (cond1 or cond2) and (x >= 13)
print(cond3, end=" -> ")

cond4 = (x < 13) or (cond1 and cond3)
print(cond4, end="!")
```

2.
```
def my_favorite_function(x, y, z):
    x = y
    z = x
    left = x + y + z
    right = x * y * z
    return left + right

x = 2
y = 4
z = 6
result = my_favorite_function(x, y, z)
print(result)
result = my_favorite_function(-1, -2, -3)
print(result)
print(x, y, z)
```

3.
```
def test1(a, b, c):
  result = 1
  if a > (b + c):
    result *= 4
  if b > c:
    result *= -1
  return result


def test2(a, b, c):
  result = 1
  if a > (b + c):
    result *= 4
  elif b > c:
    result *= -1
  return result

print(test1(12, 8, 2))
print(test2(12, 8, 2))
```

4.
```
def test1(a, b, c):
  if (a * b) == (c * c):
    print(“square”)
  elif a < 0 and b < 0:
    print(“negative”)
  else:
    print(“nothing”)


def test2(a, b, c):
  if (a * b) == (c * c):
    print(“square”)
  if a < 0 and b < 0:
    print(“negative”)
  else:
    print(“nothing”)

print(test1(-4, -9, 6))
print(“---”)
print(test2(-4, -9, 6))
print(“---”)
print(test1(3, 12, 6))
print(“---”)
print(test2(3, 12, 6))
print(“---”)
print(test1(3, 12, 5))
print(“---”)
print(test2(3, 12, 5))
```

5.
```
total = 0
marker = 2
while total <= marker:
  total += marker
  marker += 3
print(“Total:”, total)
```

6.
```
for n in range(6):
  print(n, end=”-”)

print(“---”)
for i in range(10, 0, -4):
  print(i, end=”-”)

print(“---”)
for k in range(2, 7):
  print(k, end=”-”)
```