Assignment 2

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# 1. What are the two values of the Boolean data type? How do you write them?

# Answer:

# The two Boolean values are True and False. They are written as follows:

True

False


# 2. What are the three different types of Boolean operators?

# Answer:

# The three Boolean operators are:

# AND, OR, NOT


# 3. Make a list of each Boolean operator's truth tables.

# Answer:


# AND operator:

print("AND Truth Table:")

print("A\tB\tA AND B")

print(f"{True}\t{True}\t{True and True}")

print(f"{True}\t{False}\t{True and False}")

print(f"{False}\t{True}\t{False and True}")

print(f"{False}\t{False}\t{False and False}")
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# OR operator:

print("\nOR Truth Table:")

print("A\tB\tA OR B")

print(f"{True}\t{True}\t{True or True}")

print(f"{True}\t{False}\t{True or False}")

print(f"{False}\t{True}\t{False or True}")

print(f"{False}\t{False}\t{False or False}")


# NOT operator:

print("\nNOT Truth Table:")

print("A\tNOT A")

print(f"{True}\t{not True}")

print(f"{False}\t{not False}")


# 4. What are the values of the following expressions?

# Answer:

print("\nExpression Evaluations:")

print((5 > 4) and (3 == 5))  # False

print(not (5 > 4))  # False

print((5 > 4) or (3 == 5))  # True

print(not ((5 > 4) or (3 == 5)))  # False

print((True and True) and (True == False))  # False

print((not False) or (not True))  # True


# 5. What are the six comparison operators?

# Answer:

# ==, !=, >, <, >=, <=
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# 6. How do you tell the difference between the equal to and assignment operators?
# Answer:
# Equal to (==) is for comparison, while assignment (=) is for assigning values.
# Example:
x = 5  # Assignment
print(x == 5)  # Comparison, prints True


# 7. Identify the three blocks in this code.
# Answer:
spam = 0
if spam == 10:
    print('eggs')  # Block 1
if spam > 5:
    print('bacon')  # Block 2
else:
    print('ham')  # Block 3
print('spam')
print('spam')


# 8. Write code that prints "Hello" if 1 is stored in spam, prints "Howdy" if 2 is
stored in spam, and prints "Greetings!" if anything else is stored in spam.
spam = 2
if spam == 1:
    print('Hello')
elif spam == 2:
    print('Howdy')
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else:
    print('Greetings!')


# 9. If your program is stuck in an endless loop, what keys will you press?
# Answer:
# Press Ctrl + C.


# 10. How can you tell the difference between break and continue?
# Answer:
# break: Exits the loop.
# continue: Skips to the next iteration.


# Example:
print("\nUsing break and continue:")
for i in range(5):
    if i == 3:
        break
    print(i)  # Stops at 3


for i in range(5):
    if i == 3:
        continue
    print(i)  # Skips 3


# 11. In a for loop, what is the difference between range(10), range(0, 10), and
range(0, 10, 1)?
# Answer:
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# No difference, all produce numbers from 0 to 9.


print(list(range(10)))

print(list(range(0, 10)))

print(list(range(0, 10, 1)))


# 12. Write a short program that prints the numbers 1 to 10 using a for loop and a while

loop.


# Using a for loop:

print("\nFor Loop:")

for i in range(1, 11):

    print(i)


# Using a while loop:

print("\nWhile Loop:")

i = 1

while i <= 10:

    print(i)

    i += 1


# 13. If you had a function named bacon() inside a module named spam, how would you call

it after importing spam?

# Answer:

# import spam

# spam.bacon()
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