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Quiz: Boolean Expressions for Conditions

Quiz Question

Imagine an air traffic control program that tracks three variables, `altitude`, `speed`, and `propulsion` which for a particular airplane have the values specified below.

```
altitude = 10000
speed = 250
propulsion = "Propeller"
```

For each of the following boolean expressions, work out whether it evaluates to True or False and match the correct value.

False

True

False

True

False

True

False

True

Expression

`True` or `False`

`altitude < 1000 and speed > 100``(propulsion == "Jet" or propulsion == "Turboprop") and speed < 300 and altitude > 20000``not (speed > 400 and propulsion == "Propeller")``(altitude > 500 and speed > 100) or not propulsion == "Propeller"`

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Quiz: Using Truth Values of Objects

The code below is the solution to the *Which Prize* quiz you've seen previously. You're going to rewrite this based on what you've learned about truth values.

```
points = 174

if points <= 50:
    result = "Congratulations! You won a wooden rabbit!"
elif points <= 150:
    result = "Oh dear, no prize this time."
elif points <= 180:
    result = "Congratulations! You won a wafer-thin mint!"
else:
    result = "Congratulations! You won a penguin!"

print(result)
```

You will use a new variable `prize` to store a prize name if one was won, and then use the truth value of this variable to compose the `result` message. This will involve two `if` statements.

1st conditional statement: update `prize` to the correct prize name based on `points`.

2nd conditional statement: set `result` to the correct phrase based on whether `prize` is evaluated as True or False.

- If `prize` is None, `result` should be set to `"Oh dear, no prize this time."`
- If `prize` contains a prize name, `result` should be set to `"Congratulations! You won a {}".format(prize)`. This will avoid having the multiple result assignments for different prizes.

At the beginning of your code, set prize to None, as the default value.



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