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"""
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4.11.3. Exercise Part 2

Rewrite rectangle and rhombus to use parallelogram.

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```
import turtle
from q3 import Parallelogram
from sys import exit
```

```
class Rectangle_V2():
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```
    """
```

```
    Wrapper class that uses Parallelogram for rendering.
```

```
    """
```

```
    def __init__(self):
```

```
        self.renderer = Parallelogram()
```

```
    def rectangle(self, width=100, height=100, shift=0):
```

```
        self.renderer.parallelogram(l1=width, l2=height, angle=90, shift=shift)
```

```
    def undo(self):
```

```
        self.renderer.undo()
```

```
    def get_input(self):
```

```
        vars = input("Enter the width and height separated by a space, undo to clear the existing r
```

```
        #just so you can read the input, I am copying it below:
```

```
        """
```

```
        Enter the width and height separated by a space, undo to clear the  
        existing rectangle, or exit to return to shape selection:
```

```
        """
```

```
    try:
```

```
        if len(vars.split(" ")) > 2:
```

```
            """
```

```
            allowing for special 'iterations' and 'shift' keywords that  
            will repeat the draw sequence 'iterations' times with 'shift'  
            angular offset each time
```

```
            """
```

```
            width, height, iterations, shift = vars.split(" ")
```

```
            """
```

```
            In my code I assigned all of these in one line, but they  
            get cut off in the PDF
```

```
            """
```

```
            width = int(width)
```

```
            height = int(height)
```

```
            iterations = int(iterations)
```

```
            shift = int(shift)
```

```
            for i in range(iterations):
```

```
                self.rectangle(width, height, shift)
```

```

        elif len(vars.split(" ")) == 2:
            width, height = vars.split(" ")
            width, height = int(width), int(height)
            self.rectangle(width, height)

        elif len(vars.split(" ")) == 1:
            if vars == "undo":
                self.undo()
            elif vars == "exit":
                #return true as an escape condition for the while loop
                return 1
    except:
        print("There was an error in the entry, try again.")

def __del__(self):
    """
    Adding a destructor to clean up instance in the main function.
    """
    print("Destructing Rectangle_V2 instance...")

class Rhombus_V2():
    """
    Wrapper class that uses Parallelogram for rendering.
    """
    def __init__(self):
        self.renderer = Parallelogram()

    def rhombus(self, length=100, angle=60, shift=0):
        self.renderer.parallelogram(
            l1=length,
            l2=length,
            angle=angle,
            shift=shift
        )

    def undo(self):
        self.renderer.undo()

    def get_input(self):
        vars = input("Enter the side length and interior angle separated by a space, 'undo' to clear  

        #just so you can read the input, I am copying it below:
        """
        Enter the side length and interior angle separated by a space, 'undo'
        to clear the existing rhombus, or 'exit' to return to shape selection:
        """

        try:
            if len(vars.split(" ")) > 3:
                """
                allowing for special 'iterations' and 'shift' keywords that
                will repeat the draw sequence 'iterations' times with 'shift'
                angular offset each time
                """
                length, angle, iterations, shift = vars.split(" ")

```

```

        """
        In my code I assigned all of these in one line, but they
        get cut off in the PDF
        """
        length = int(length)
        angle = int(angle)
        iterations = int(iterations)
        shift = int(shift)

        for i in range(iterations):
            self.rhombus(length, angle, shift)

    elif len(vars.split(" ")) == 2:
        length, angle = vars.split(" ")
        length, angle = int(length), int(angle)

        self.rhombus(length, angle)

    elif len(vars.split(" ")) == 1:
        if vars == "undo":
            self.undo()
        elif vars == "exit":
            #return true as an escape condition for the while loop
            return 1

    except:
        print("There was an error in the entry, try again.")

def __del__(self):
    """
    Adding a destructor to clean up instance in the main function.
    """
    print("Destructing Rhombus_V2 instance...")

if __name__ == '__main__':
    # Continuously prompt the user for inputs until they enter "exit"
    while 1:

        shape_selection = input("Enter 1 for rectangle, 2 for rhombus, 3 for parallelogram, clear,

        #just so you can read the input, I am copying it below:
        """
        Enter 1 for rectangle, 2 for rhombus, 3 for parallelogram, clear,
        or exit:
        """

        if shape_selection == '1':
            shape = Rectangle_V2()
            #not a huge fan of nested while loops, but it works...
            while 1:
                if shape.get_input():
                    break
            #destruct the instance of the class
            del shape

        elif shape_selection == '2':

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    shape = Rhombus_V2()
    #not a huge fan of nested while loops, but it works...
    while 1:
        if shape.get_input():
            break
    #destruct the instance of the class
    del shape

elif shape_selection == '3':
    shape = Parallelogram()
    #not a huge fan of nested while loops, but it works...
    while 1:
        if shape.get_input(wrapper=True):
            break
    #destruct the instance of the class
    del shape

elif shape_selection == "clear":
    """
    Instantiate the parallelogram to gain access to the clear function
    clear exists at the shape selection level because 'undo' exists
    at the drawing level
    """
    shape = Parallelogram()
    shape.clearscreen()
    del shape

elif shape_selection == "exit":
    break
else:
    print("Invalid input, try again...")

exit()

#this keeps the canvas open
turtle.done()

```