**Lab Exercise 21- Rectangle Resize Animation using PySide6**

Below is an example of how you can create a PySide6 application that animates the resizing of a rectangle upon mouse click:

import sys

from PySide6.QtWidgets import QApplication, QMainWindow

from PySide6.QtGui import QPainter, QPen, QBrush

from PySide6.QtCore import Qt, QRect

class RectangleResizeApp(QMainWindow):

def \_\_init\_\_(self):

super().\_\_init\_\_()

self.setWindowTitle("Rectangle Resize on Mouse Click")

self.setGeometry(100, 100, 400, 300)

self.rect\_width = 100

self.rect\_height = 100

def mousePressEvent(self, event):

self.rect\_width += 20

self.rect\_height += 20

self.update()

def paintEvent(self, event):

painter = QPainter(self)

painter.setRenderHint(QPainter.Antialiasing)

painter.setPen(QPen(Qt.black, 2, Qt.SolidLine))

painter.setBrush(QBrush(Qt.blue, Qt.SolidPattern))

rect = QRect((self.width() - self.rect\_width) // 2, (self.height() - self.rect\_height) // 2, self.rect\_width, self.rect\_height)

painter.drawRect(rect)

if \_\_name\_\_ == '\_\_main\_\_':

app = QApplication(sys.argv)

window = RectangleResizeApp()

window.show()

sys.exit(app.exec())

Save this code to a file named rectangle\_resize.py and run it using the following command:

python rectangle\_resize.py

This script will display a PySide6 window containing a blue rectangle. Clicking anywhere inside the window will increase the width and height of the rectangle by 20 units each time you click. You can adjust the increment value and other parameters as needed to customize the behavior of the application.