Assignment 7

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Question

Draw a circle of radius **3** units. Take two points **P** and **Q** on one of its extended diameter each at a distance of **7** units from its centre. Draw tangents to the circle from these two points **P** and **Q**.

Answer

Taking the center of the circle at (0,0)

$$O = (0,0)$$

Taking the diameter of the circle lie on the X axis
the extended diameter **PQ** would be

$$P = (-7, 0)$$
$$Q = (7, 0)$$

now, constructing circles with the mid point of **OP** and **OQ** as centers and **OP** and **OQ** as diameters respectively we obtain circle R and S as coordinates

$$R = (-3.5, 0)$$
$$S = (3.5, 0)$$

the intersection points of Circle **R(-3.5,0)** and **S(-3.5,0)** with **O(0,0)** would be the points of contact of tangents through P and Q respectively
joining this points we would obtain the asked tangents.
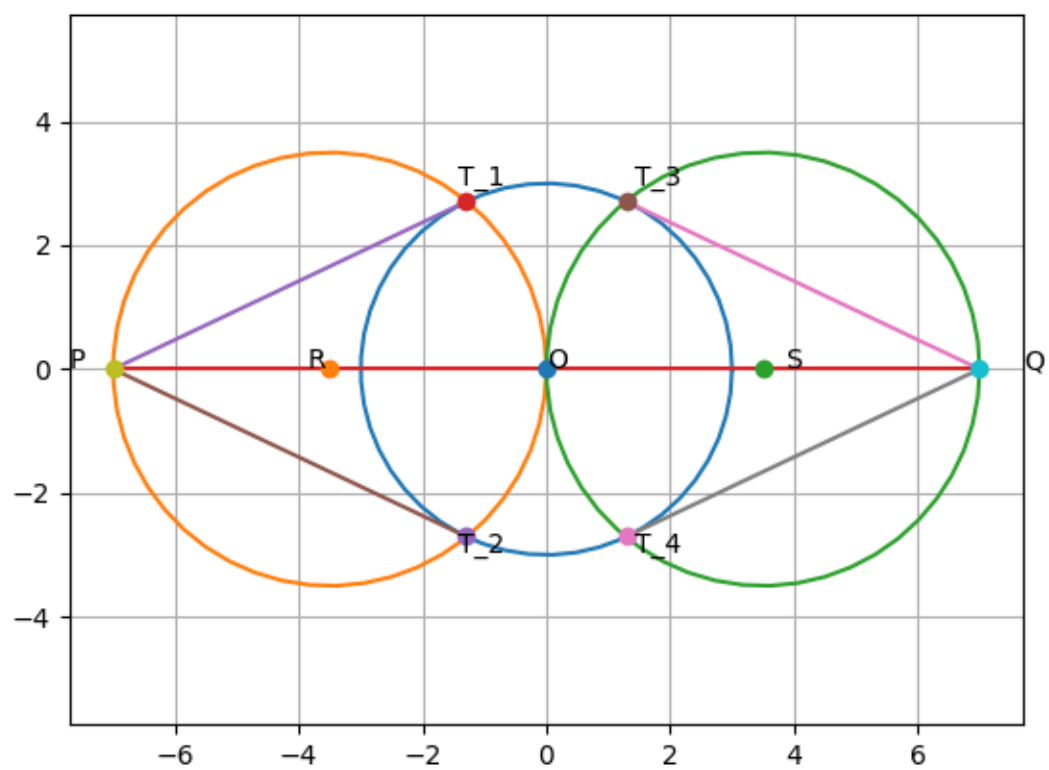
below is the constructed figure.

Figure 1: Python output