1. Python Program for Finding the vertex, focus and directrix of a parabola

**Code:**

def parabola(a, b, c):

print ("Vertex: (" , (-b / (2 \* a)) , ", " ,(((4 \* a \* c) - (b \* b)) / (4 \* a)) , ")" )

print ("Focus: (" , (-b / (2 \* a)) , ", " , (((4 \* a \* c) - (b \* b) + 1) / (4 \* a)) , ")" )

print ("Directrix: y=" , (int)(c - ((b \* b) + 1) \* 4 \* a ))

a = 5

b = 3

c = 2

parabola(a, b, c)

**Output:**

