the camera's at (Xc, Yc, Zc) and the point you want to project is P = (X, Y, Z). The distance from the camera to the 2D plane onto which you are projecting is F (so the equation of the plane is Z-Zc=F). The 2D coordinates of P projected onto the plane are (X', Y').

X' = ((X - Xc) * (F/Z)) + Xc

Y' = ((Y - Yc) * (F/Z)) + Yc

If your camera is the origin, then this simplifies to:

X' = X * (F/Z)

Y' = Y * (F/Z)

We find different projection based on different viewpoint.