```
> # Generation of wood measurments from statistics
> # Maple 9.5, P.C.J. Hoogenboom, 6 November 2006
> # Normal distributions assumed
> restart: with(plottools):
>
> n:=200:                # Number of simulated measurments
> muMoE:=10000:          # mean of the modulus of elasticity
> sigmaMoE:=0.23*muMoE: # standard deviation of modulus of elasticity
> muft:=42:              # mean of the tensile strength
> sigmaft:=0.30*muft:    # standard deviation of the tensile strength
> r2:=0.55:              # correlation coefficient squared
> CoVMoEft:=sqrt(r2)*sigmaMoE*sigmaft:   # covariance
>
> with(LinearAlgebra):
> Cx:=Matrix([[sigmaMoE^2,CoVMoEft],[CoVMoEft,sigmaft^2]], shape=symmetric):
> (V,T):=Eigenvectors(Cx):
> muY1:=T[1,1]*muMoE+T[2,1]*muft:
> muY2:=T[1,2]*muMoE+T[2,2]*muft:
> sigmaY1:=sqrt(V[1]):
> sigmaY2:=sqrt(V[2]):
> L:=point([0,0]):
>
> for i from 1 to n do
  Y1:=muY1+sigmaY1*stats[random,normald](1):
  Y2:=muY2+sigmaY2*stats[random,normald](1):
  MoE:=T[1,1]*Y1+T[1,2]*Y2:
  ft :=T[2,1]*Y1+T[2,2]*Y2:
  L:= L, point([MoE,ft]) ;
end do:
>
> plots[display](L, axes=boxed);
```

