derivative of x^lnx

Solution:

$$(x^{\ln x})' = (e^{\ln(x^{\ln x})})' = e^{\ln(x^{\ln x})} * \ln e * \left(\ln(x^{\ln x})\right)' = x^{\ln x} * (\ln x * \ln x)' = x^{\ln x} * ((\ln x)^2)'$$
$$= x^{\ln x} * 2\ln x * (\ln x)' = x^{\ln x} * 2\ln x * \frac{1}{x} = x^{\ln x - 1} * 2\ln x$$

Answer: $x^{\ln x - 1} * 2\ln x$