Exercise Computer graphics – (till 21. September 2006)

Super Ellipse/Shape

Exercise 1: For which parameters does the equation of the super ellipses found by Gabriel Lamé

$$\left|\frac{x}{a}^{n}\right|+\left|\frac{y}{b}^{n}\right|=1$$

a) yield a circle or

b) a rectangle?

c) in which way it the equation useful for vector applications that want to offer rounded rectangles?

Exercise 2: The super-shape is known to be a generalization of the super-ellipse. For which parameters does the super-shape

$$r=\sqrt{\left|\frac{1}{a}\cos\left(\frac{m}{4}\phi\right)\right|^{n2}+\left|\frac{1}{b}\sin\left(\frac{m}{4}\phi\right)\right|^{n3}}$$

a) yield a normal ellipse or

b) a unit circle?

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Exercise 3: Compile and run our super shape application under an operation system of your choice.

Note that this exercise is mandatory and the precondition for doing other exercises in this lecture!

(You may use Java if you like)