Shape Interrogation for CAD/CAM

evalc.c

Evaluate the i-th derivative of an open NURBS curve at a parametric point u where i = 0,1,2... For example, if i = 0, it will evaluate the 0-th derivative, i.e. a position at u.

Do:
prompt> make evalc
prompt> evalc -i input_curve_file_name -u u_value -d #_of_derivatives [-o output_file_name]

Example:
Example 1.5.1 of the hyperbook (or in pages 30-31 of the hardcopy version) to compute a position vector (i.e. i = 0) for θ = 45° (i.e. at u = 0.414213562)
prompt> evalc -i c.curv -u 0.414213562 -d 0 -o c.out
Note: For the file format of the input curve (c.curv), see ../../README.pdf

evals.c

Evaluate the i,j-th derivatives of an open NURBS surface at (u,v) where i,j = 0,1,2... For example, if i = j = 0, it will evaluate the 0-th derivatives in u,v i.e. a position at (u,v).

Do:
prompt> make evals
prompt> evals -i input_surface_file_name -p u_value,v_value -d #_of_u-deriv,#_of_v-deriv [-o output_file_name]

Note: No spaces before or after the "comma" in -p and -d command line options.

Example:
Example 1.5.2 of the hyperbook (or in pages 32-33 of the hardcopy version) for θ = φ = 45°
prompt> evals -i s.surf -p 0.414213562,0.414213562 -d 0,0 -o s.out
Note: For the file format of the input surface (s.surf), see ../../README.pdf