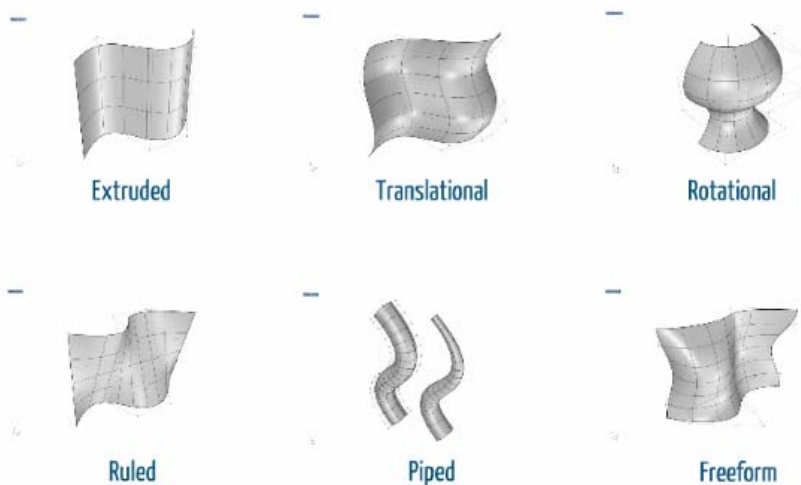


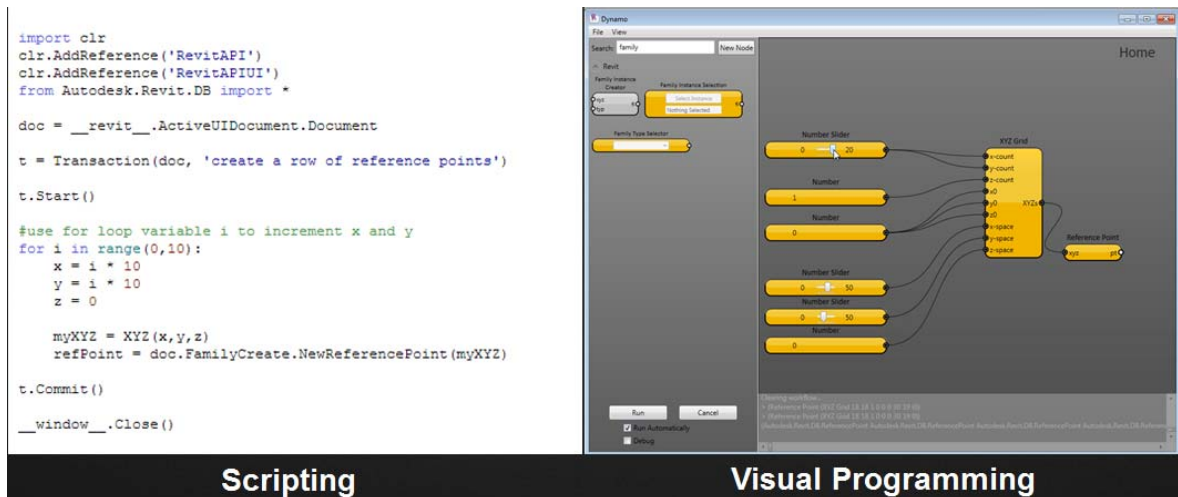
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1. List **6 uses of Design Technology** in Design Practice...
 - **Ideation** - to create/describe design ideas.
 - **Iteration** - to generate variations and alternatives of single idea
 - **Simulation** - to analyze and verify design ideas
 - **Visualization** – to render and diagram designs.
 - **Documentation** – to document designs for construction.
 - **Fabrication** – to build the design using digitally-controlled machines.
2. Name **2 types of simulation/analysis** used in assignment 3...
 - **Solar** Radiation Analysis
 - **Wind** Tunnel Analysis
3. Why would a **designer** use analysis simulation in the design process?
 - To **verify** a design direction.
 - To **compare** design iterations.
4. List **6 types of surfaces** which can be created in a 3D modeler...



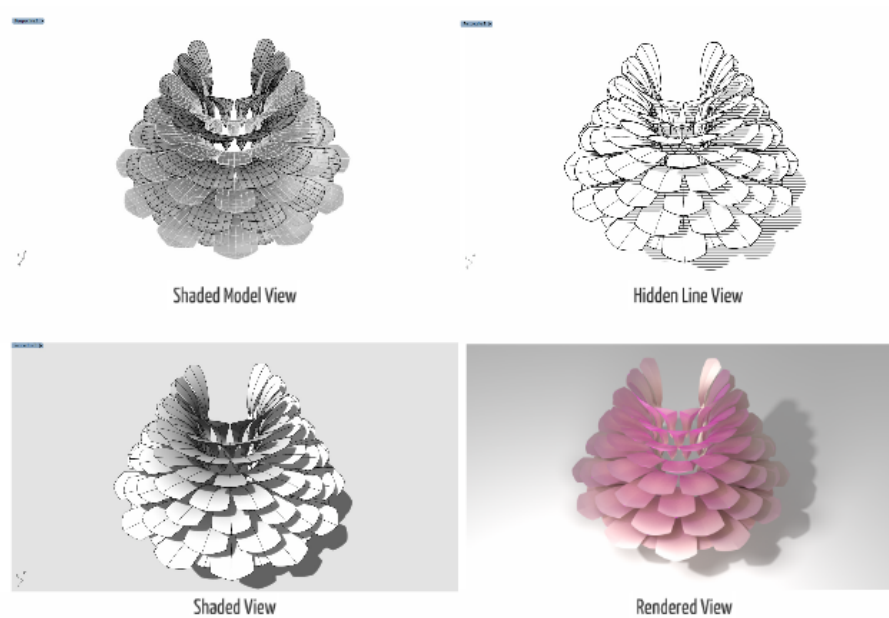
5. List a few commands for defining a surface in Rhino
 - **SrfPt** – Creates surfaces from 4 points.
 - **Loft** – Creates a surface from a set of section curves.
 - **Extrude** – Creates a surface using a curve and a direction.
 - **NetworkSrf** – Creates a surface from edge curves.
 - **Sweep** – Creates a surface using a section and a path.
 - **Revolve** – Creates a surface using a profile and an axis.
 - **PlanarSrf** – Creates a surface defined by closed planar curves.
6. Describe the difference between a Revit **“Family”** and a Revit **“Project”**....
 - Families are the parametric components that describe parts and pieces. A Revit project is the file which documents and manages the entire Building Information Model including families and other elements.

7. What are some of the geometry **'types'** available in Rhino?
 - **Points**
 - **Curves** (lines, arcs, circles, splines)
 - **Surfaces**
 - **Breps** (solids and polysurfaces)
8. What are some examples of object transformations?
 - **Move**
 - **Rotate**
 - **Mirror**
 - **Orient**
9. Describe two types of tools available for **automating your design process...**
 - **Scripting** – Code-based language for creating subroutines for automating a larger program (examples: Python, Visual Basic)
 - **Visual Programming Language** - Visual node-based and/or graph based interface that allows you to create subroutines without writing code. (examples: Grasshopper for Rhino, Dynamo for Revit)



10. What does BIM stand for?
 - **B**uilding **I**nformation **M**odeling
11. What does NURBS stand for?
 - **N**on-Uniform Rational **B**-Spline
12. Describe **3 types of orthographic line drawings** used in the assignments...
 - **Plan Drawing** – A 2D 'slice' of the building cut horizontally and project to the XY drawing plane.
 - **Elevation** – A 2D 'side view' of the design project to the XZ or YZ drawing planes
 - **Section** – A 2D 'slice' of the building cut vertically and projected to the XZ or YZ drawing planes.
13. What techniques do we use to give depth/heirarchy to a 2D line drawing?
 - **Line Weight** (thickness of the line)
 - **Line Type** (type of line, continuous, dashed, etc)

14. Name a few ways to render a 3D object...



15. What is a “**Disruptive Technology**”? Give an example...

- A disruptive technology is a technology that introduces a new process which transforms an existing market or service.
- 3D-Printing is an example of an emerging ‘disruptive technology’

16. What is a “**Design Thinking**”?

- A process for proposing creative solutions through the investigation of open-ended problems.

17. What is a “**Parametric Model**”?

- A model defined relationships and constraints which control a geometric form or assembly. Modification to a constraint (such as a dimension) will produce a change to the overall model assembly.