Name: ROTHA Dapravith
ID: e20190915
Group: I5-GIC(B)

Assignment Discussion Lesson 10

1) What is sampling?

2) How to transform a 2D continuous signal into a discrete signal?

3) How to move geometrical objects?

4) What is linear interpolation?

5) Among 4 interpolation methods, in your opinion which one is the best? Why?

Answers

1). Sampling is related to coordinates values (Nyquist frequency). It is the process of converting a signal (a function of continuous time or space) into a numeric sequence (a function of discrete time or space). The process conversion, or simply digitizing.

2). To transform a 2D continuous signal into a discrete signal there are two ways to implement:

- Technological solution: digital camera and scanner for paper documents.

- Theoretical solution: Sampling theory

3). To move geometrical objects:

- Firstly, we use translation move an object a fixed distance to a different position. It is one of the simplest transformations.

- Secondly, we use rotation rotates the object at particular angle θ (theta) from its origin.

- Finally, use scaling to changes the size of an object.

4). Linear interpolation is a method of curve fitting using linear polynomials to construct new data points within the range of a distance that set of known data points. We use estimate the value by using the linear polynomials.

5). Among 4 interpolation methods, I think that the first interpolation is the best because it is indeed easy to implement and easy to understand but there is a loss of quality during the process for a geographical movement of the object. As the same for the second one still better than the first one. And then between bell interpolation and cubic B-spline it is that there is little difference. I would choose the third one.