**MIDTERM PROJECTS**

**WINDOWS PROGRAMMING**

Exercise 1: Paint application Develop a Paint application allowing users are able to create graphic objects, with following functions:

1. **Basic functions:**

+ Draw graphic objects: Line, Ellipse, Filled ellipse, rectangle, filled rectangle, circle, filled circle, Arc, polygon, filled polygon.

+ Develop other functions allowing users are able to adjust Pen properties (color, width, dash style), and Brush properties (color, style).

+ Select and drag the graphic objects.

+ Zoom in and zoom out to change the size of the objects.

1. **Advanced functions**

+ Remove one or many selected objects (Using Ctr + mouse click to select many objects)

+ Group and ungroup the objects.

**Exercise 2: (Group of 3 students)**Proposing and developing a Game using .NET framework only (For example, Mario, Flappy Bird, Tank games,…)

**HOW TO SUBMIT THE EXERCISES:  
Each exercise’s results must contain:**1. A folder **Source code**: Contain source codes of the project  
2. A folder **Exe**: Contain .exe file of this application  
3. A folder **Docs**: Contain a file introducing of the application, and images which illustrating for all functions of the application (with explanation below the images).  
4. A folder **Video** containing videos to demo the applications.  
  
**Deadline: 10/5/2023, submitting on fhqx.hcmute.edu.vn**

**Note :**

**Group :**

**Class ,startPoint , endpoint, bool gop =false,, gop (list<clsDraw>) =>lay cac chi so point ve lai duong select**

**Khi gop group remove khac phan tu da gop;**

**ungroup list<clsDraw> nhung phan duoc duoc remove tu group;**