We will mark this task out of 20 before the scaling

Task1

- ***Input:***
  Use the mouse clicks to control the user input. Please follow the below order when taking the user input.

  1. First two clicks for drawing the circle window [2]
  2. 2 clicks for the first small circle (Right Eye of the shape) [1]
  3. 2 clicks for the second small circle (Left Eye of the shape) [1]
  4. 2 clicks for the **half circle** (Shape's Smile) [2]
  5. 2 clicks for line 1(Hair of the shape) [1]
  6. 2 clicks for line 2(Hair of the shape) [1]
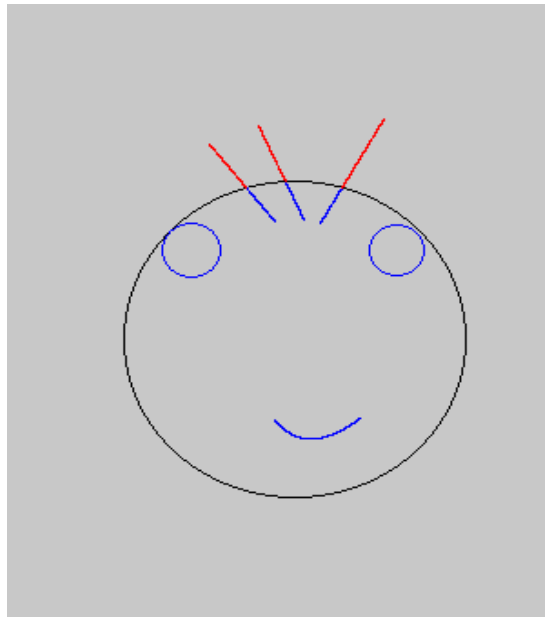 7. 2 clicks for line 3(Hair of the shape) [1]

- ***Note***: Mark any portion of the shapes inside the window (circle) with blue, otherwise mark with red.

- ***Mainly, we focus on two points:***
  1. Clipping the line using a circle as a clipping window. [7]
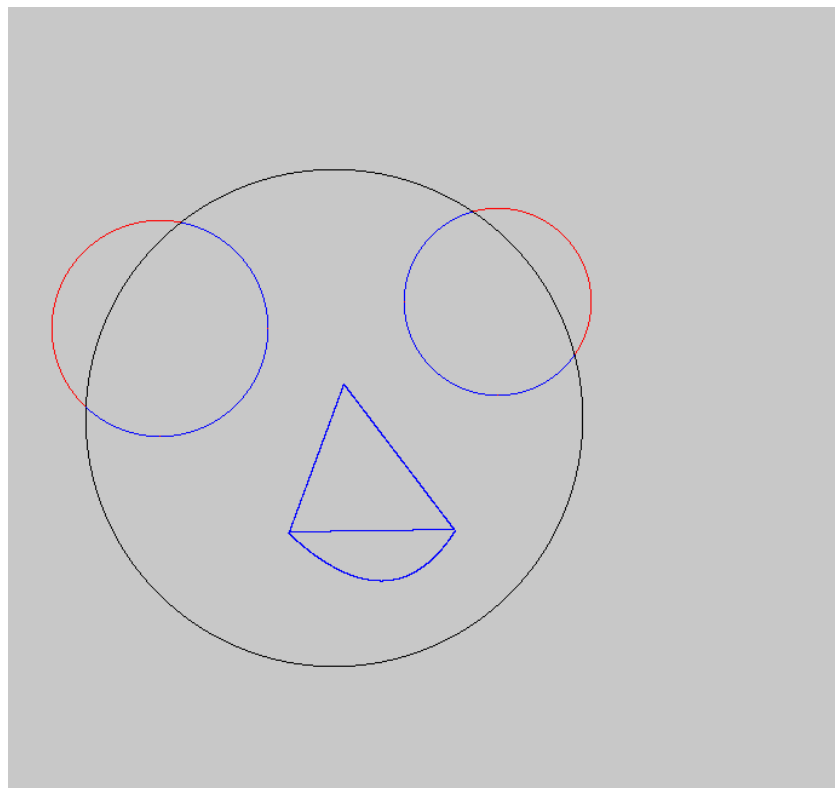 2. A flow chart of the clipping algorithm which should be written in a word file. [4]

- ***Output***: A window (circle) with the marked shapes.
- ***Hint***: Use any algorithm to draw the line, the circle, the curve, and the clipping process.

Task2

- ## *Input:*
- **Use the mouse clicks to control the user input. Please follow the below order when taking the user input.** [2]

    1. First two mouse clicks for drawing the circle window. [1]
    2. 2 clicks for the first small circle (Right Eye of the shape). [1]
    3. 2 clicks for the second small circle (Left Eye of the shape). [1]
    4. 2 clicks for the **half circle** (Shape's Smile). [2]
    5. 3 clicks for the triangle (Shape's Nose). [2]

- *Note*: Mark any portion of the shapes inside the window (circle) with blue, otherwise mark with red.

- *Mainly, we focus on two points:*
    1. Clipping circles using another circle as a clipping window. [7]
    2. A flow chart of the clipping algorithm which should be written in a word file. [4]

- *Output*: A window (circle) with the marked shapes.
- *Hint*: Use any algorithm to draw the line, the circle, the curve, and the clipping process.

Task3

- In this task, you will use a combination between window application and console application.
- ***Input:***
- **Use the mouse clicks to control the user input. Please follow the below order when taking the user input.** [2]

    First two mouse clicks for drawing the circle window. After that, a menu will appear in the console has **5 options:**

    - 1 -> For the line drawing, please enter 2 mouse clicks. [1]
    - 2 -> For the circle drawing, please enter 2 mouse clicks. [1]
    - 2 -> For **half circles** drawing, please enter 2 mouse clicks. [2]
    - 4 -> For a new window (Circle) drawing, please enter 2 mouse clicks. [2]
    - 5 -> Close the Window App. [1]

- ***Note***:   Mark any portion of the shapes inside the window (circle) with blue, otherwise mark with red.

- ***Mainly, we focus on two points:***
    1. Clipping circles, lines and half cycles using a circle as a clipping window. [7]
    2. A flow chart of the clipping algorithm which should be written in a word file. [4]

- ***Output***: A window (circle) with the marked shapes.
- ***Hint***: Use any algorithm to draw the line, the circle, the curve, and the clipping process.