

# CSE 142 Programming I

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## Brief Intro to GP142

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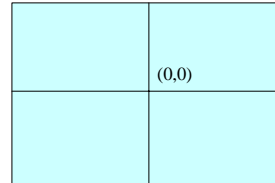
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## Basic Drawing

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- All coordinates are measured from the center of the screen:



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## Drawing Commands

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- GP142 has built in functions to draw
  - pixels
  - lines
  - rectangles
  - triangles
  - ovals
  - circles
  - text

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## Example GP142 Command

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- Draw a red circle with radius 40 centered at (20, -30)

```
GP142_circleXY(RED, 20, -30, 40);
```

- All of these commands are in the GP142 reference manual

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## Initializing the Library

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- Before you can draw anything you must call `GP142_open()`
- When you're done, call `GP142_close()`
- These need to be done **once per program**

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## Events

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- GP142 uses **events** to provide actions
- Events are generated for each
  - Mouse click
  - Keystroke
  - Quit button is hit
  - Every 10th of a second

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## Event Loop

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```
while(!quit){
    event = GP142_wait_event(&mouseX,
                           &mouseY, &keyPressed);

    switch (event){
        case GP142_MOUSE: ...
        case GP142_KBD: ...
        case GP142_PERIODIC: ...
        case GP142_QUIT: ...
    }
}
```

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## GP142 Predefined Constants

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- Event Types
- Log ON/OFF
- Animation RUN/HALT/etc.
- Colors
  
- Don't try to redefine these! They're already there.

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## How Do We Use It?

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- We have to keep track of where everything is
- At each periodic event, we clear the screen ([GP142\\_clear\(\)](#)) and draw things in their new positions
- If the user does something, then the loop handles it

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## Where to Learn More

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- Read the users guide
  - Online
  - In your course packet
  
- Play with the library—it will make more sense once you try it out

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