

### **Software Requirements for Random Walk Program**

- 1:** Program must execute within a loop until user chooses to exit the loop.
- 2:** All random walks must begin at point 0,0 on a scatter graph
- 3:** Each step must be randomly set to left or right and forwards or backwards and to a random distance from 0 to 4
  - 3.1:** If the distance traveled for any step is zero, cancel the step.
  - 3.2:** If the distance traveled is not zero, plot a new point at the current location
- 4:** The graph that displays the steps must be a scatter graph.
  - 4.1:** Scatter graph must have a dark background
  - 4.2:** Scatter points must be colored using the plasma colormap
  - 4.3:** The first and last points must be unique
    - 4.3.1:** The first point must be colored Chartreuse
    - 4.3.2:** The first point must have an edge colored fuchsia
    - 4.3.3:** The first point must be size 88
    - 4.3.4:** The final point must be colored deeppink
    - 4.3.5:** The final point must have an edge colored lavender
    - 4.3.6:** The final point must be size 120
- 5:** The Axes must be removed from the graph.
- 6:** the user must be prompted to enter y or n upon creating the graph.
  - 6.1:** If n is entered, exit the program.
  - 6.2:** If anything besides n is entered continue to loop through the program.