

Name

`gl_FragCoord` — contains the window-relative coordinates of the current fragment

Declaration

```
in vec4 gl_FragCoord ;
```

Description

Available only in the fragment language, *gl_FragCoord* is an input variable that contains the window relative coordinate (x, y, z, 1/w) values for the fragment. If multi-sampling, this value can be for any location within the pixel, or one of the fragment samples. This value is the result of fixed functionality that interpolates primitives after vertex processing to generate fragments. The z component is the depth value that would be used for the fragment's depth if no shader contained any writes to [gl_FragDepth](#).

gl_FragCoord may be redeclared with the additional layout qualifier identifiers **origin_upper_left** or **pixel_center_integer**. By default, *gl_FragCoord* assumes a lower-left origin for window coordinates and assumes pixel centers are located at half-pixel centers. For example, the (x, y) location (0.5, 0.5) is returned for the lower-left-most pixel in a window. The origin of *gl_FragCoord* may be changed by redeclaring *gl_FragCoord* with the **origin_upper_left** identifier. The values returned can also be shifted by half a pixel in both x and y by **pixel_center_integer** so it appears the pixels are centered at whole number pixel offsets. This moves the (x, y) value returned by *gl_FragCoord* of (0.5, 0.5) by default to (0.0, 0.0) with **pixel_center_integer**.

If *gl_FragCoord* is redeclared in any fragment shader in a program, it must be redeclared in all fragment shaders in that program that have static use of *gl_FragCoord*. Redefining *gl_FragCoord* with any accepted qualifier affects only *gl_FragCoord.x* and *gl_FragCoord.y*. It has no affect on rasterization, transformation or any other part of the OpenGL pipeline or language features.

Version Support

Variable Name	OpenGL Shading Language Version											
	1.10	1.20	1.30	1.40	1.50	3.30	4.00	4.10	4.20	4.30	4.40	4.50
<code>gl_FragCoord</code>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

See Also

[gl_FragCoord](#)

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