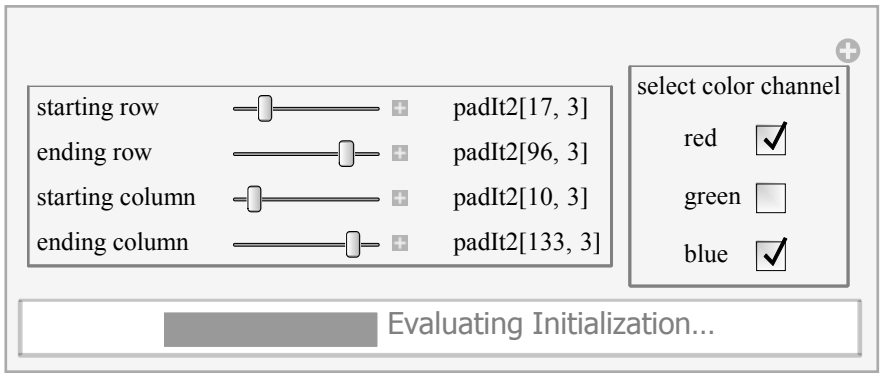
Selecting ImageData Using Rows And Columns

Initialization Code (optional)

Manipulate

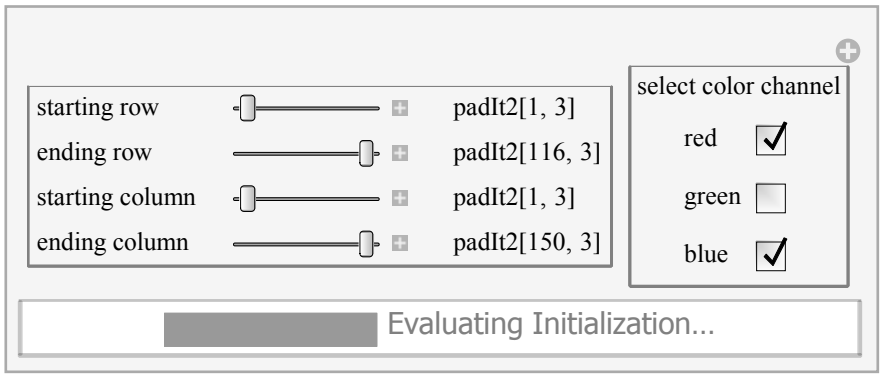
```
Manipulate[
 Module[{work = Table[0, {116}, {150}, {3}], channel},

  If[r1 > r2, r1 = r2];
  If[c1 > c2, c1 = c2];

  channel = Which[
    p1 && p2 && p3, 1 ;; 3,
    p1 && Not[p2] && Not[p3], 1,
    p1 && p2 && Not[p3], 1 ;; 2,
    p1 && Not[p2] && p3, {1, 3},
    Not[p1] && p2 && p3, 2 ;; 3,
    Not[p1] && p2 && Not[p3], 2,
    Not[p1] && p3 && Not[p2], 3,
    True, (p1 = True; 1) (*must have atleast one channel*)
   ];

  work[[r1 ;; r2, c1 ;; c2, channel]] = data[[r1 ;; r2, c1 ;; c2, channel]];

  Grid[{
    {Row[{"ImageData[[ ", padIt2[r1, 3], ";;", padIt2[r2, 3],
       " , ", padIt2[c1, 3], ";;", padIt2[c2, 3], " , ", channel, " ]]"}]},
    {Grid[{
       {ImageResize[Image[data], 350], ImageResize[Image[work], 350]}}]
    }
   }, Alignment → Center, Frame → All, FrameStyle -> LightGray, Spacings → {1, 1}]
],

 Style[Text[Grid[{
      {
       Grid[{
         {"starting row",
          Control[{{r1, 17, ""}, 1, 116, 1, ImageSize → Tiny}], Spacer[2], Dynamic[padIt2[r1, 3]]},
         {"ending row", Control[{{r2, 83, ""}, 1, 116, 1, ImageSize → Tiny}],
          Spacer[2], Dynamic[padIt2[r2, 3]]},
         {"starting column", Control[{{c1, 10, ""}, 1, 150, 1, ImageSize → Tiny}],
          Spacer[2], Dynamic[padIt2[c1, 3]]},
         {"ending column", Control[{{c2, 133, ""}, 1, 150, 1, ImageSize → Tiny}],
          Spacer[2], Dynamic[padIt2[c2, 3]]}
        }, Alignment → Left, Frame → True, FrameStyle -> Directive[Thickness[.001], Gray]],

       Grid[{
         {"select color channel"},
         {Grid[{
            {"red", Checkbox[Dynamic[p1, {p1 = #} &]]},
            {"green", Checkbox[Dynamic[p2, {p2 = #} &]]},
            {"blue", Checkbox[Dynamic[p3, {p3 = #} &]]}
```

```
          }, Alignment → Left, Spacings → {0.4, .7}]
        }
       }, Alignment → Center, Frame → True,
       FrameStyle -> Directive[Thickness[.001], Gray], Spacings → {0.5, .7}]

    }
   }, Alignment → Center]
 ], 12],

{{p1, True}, None},
{{p2, True}, None},
{{p3, True}, None},
Alignment → Center,
ImageMargins → 1,
FrameMargins → 1,
Paneled → True,
AutorunSequencing → Automatic,
SynchronousUpdating → True,
ContinuousAction → True,
SynchronousInitialization → False,
SynchronousUpdating → True,
Initialization :>
 (
  numeric = (Element[#, Reals] &);
  padIt2[v_?numeric, f_Integer] :=
   AccountingForm[Chop[v] , f, NumberSigns → {"", ""}, NumberPadding → {"0", "0"}, SignPadding → True];
  data = ImageData[ ];
 )

]
```



Caption

This demonstration shows how to select parts of an image using ImageData by specifying row and column locations. You can also select different color channels to view.



Details (optional)

Control Suggestions (optional)

- [x] Resize Images
- [ ] Rotate and Zoom in 3D
- [x] Drag Locators
- [ ] Create and Delete Locators
- [ ] Slider Zoom
- [ ] Gamepad Controls
- [ ] Automatic Animation
- [ ] Bookmark Animation

Search Terms (optional)

ImageData
ImageResize

Related Links (optional)

Image Processing & Analysis

Authoring Information

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