Project 4 - Solution

Continue with Project 2 and use break or continue to achieve the following:

- Find the next empty location
- Find the nearest box location for Brown, Blue and Green

Solution

```
[
  {
    "id": "6e61b13088a86271",
    "type": "inject",
    "z": "740e3c7a3e719c9b",
    "name": "",
    "props": [
      {
        "p": "payload"
      },
      {
        "p": "topic",
        "vt": "str"
      }
    ],
    "repeat": "",
    "crontab": "",
    "once": true,
    "onceDelay": 0.1,
    "topic": "",
    "payload": "",
```

            "payloadType": "date",

            "x": 150,

            "y": 460,

            "wires": [

                [

                    "e075bc584e74dcd4"

                ]

            ]

        },

        {

            "id": "e075bc584e74dcd4",

            "type": "function",

            "z": "740e3c7a3e719c9b",

            "name": "function 92",

            "func": "//var arr = [1,2,0,3,1,2,0,0,2,1,2,0];\n\nvar arr = []\n\nfor (var number = 0; number <= 11; number += 1)\n{\n arr.push(Math.floor(Math.random()*4));\n}\n\nflow.set('rack',arr);\nconsole.table(arr);\n msg.payload = arr;\nreturn msg;",

            "outputs": 1,

            "timeout": 0,

            "noerr": 0,

            "initialize": "",

            "finalize": "",

            "libs": [],

            "x": 350,

            "y": 460,

            "wires": [

                [

                    "0f841479edb50d8f",

```json
            "6eb18818be4395e9",

            "6d260b689aed5c8f"

        ]

    ]

},

{

    "id": "0f841479edb50d8f",

    "type": "debug",

    "z": "740e3c7a3e719c9b",

    "name": "debug 81",

    "active": true,

    "tosidebar": true,

    "console": false,

    "tostatus": false,

    "complete": "false",

    "statusVal": "",

    "statusType": "auto",

    "x": 540,

    "y": 460,

    "wires": []

},

{

    "id": "6eb18818be4395e9",

    "type": "ui_template",

    "z": "740e3c7a3e719c9b",

    "group": "3412d52c1cb39ad3",

    "name": "",

    "order": 4,
```

    "width": "6",

    "height": "6",

    "format": "<style>\n   table {\n   width: 100%;\n   border-collapse: collapse;\n   margin-top: 20px;\n   }\n\n   th,\n   td {\n   padding: 10px;\n   text-align: center;\n   border: 1px solid #ddd;\n   }\n\n   th {\n   background-color: #f2f2f2;\n   }\n</style>\n<table>\n   <tr>\n   <th>Column 2</th>\n   <th>Column 1</th>\n   <th>Column 0</th>\n   </tr>\n   <tr>\n   <td></td>\n   <td></td>\n   <td></td>\n   </tr>\n   <tr>\n   <td></td>\n   <td></td>\n   <td></td>\n   </tr>\n   <tr>\n   <td></td>\n   <td></td>\n   <td></td>\n   </tr>\n   <tr>\n   <td></td>\n   <td></td>\n   <td></td>\n   </tr>\n</table>",

    "storeOutMessages": true,

    "fwdInMessages": true,

    "resendOnRefresh": true,

    "templateScope": "local",

    "className": "",

    "x": 540,

    "y": 500,

    "wires": [

        []

    ]

  },

  {

    "id": "6304cf6276571aad",

    "type": "comment",

    "z": "740e3c7a3e719c9b",

    "name": "0 (Empty), 1(Green), 2(Blue), 3(Brown)",

    "info": "",

    "x": 210,

    "y": 420,

    "wires": []

```json
        },
        {
            "id": "d01d2074c7fb9382",
            "type": "inject",
            "z": "740e3c7a3e719c9b",
            "name": "",
            "props": [
                {
                    "p": "payload"
                },
                {
                    "p": "topic",
                    "v": "3",
                    "vt": "num"
                }
            ],
            "repeat": "",
            "crontab": "",
            "once": false,
            "onceDelay": 0.1,
            "topic": "",
            "payload": "2",
            "payloadType": "num",
            "x": 130,
            "y": 540,
            "wires": [
                [
                    "085da39b7c3232a3"
```

```json
            ]
        ]
    },
    {
        "id": "c6740f9251af3a53",
        "type": "inject",
        "z": "740e3c7a3e719c9b",
        "name": "",
        "props": [
            {
                "p": "payload"
            },
            {
                "p": "topic",
                "v": "3",
                "vt": "num"
            }
        ],
        "repeat": "",
        "crontab": "",
        "once": false,
        "onceDelay": 0.1,
        "topic": "",
        "payload": "0",
        "payloadType": "num",
        "x": 130,
        "y": 620,
        "wires": [
```

```
        [
            "085da39b7c3232a3"
        ]
    ]
},
{
    "id": "aceba4e26102c4a9",
    "type": "comment",
    "z": "740e3c7a3e719c9b",
    "name": "Store Blue",
    "info": "",
    "x": 120,
    "y": 500,
    "wires": []
},
{
    "id": "085283a10831ee2c",
    "type": "comment",
    "z": "740e3c7a3e719c9b",
    "name": "Empty",
    "info": "",
    "x": 110,
    "y": 580,
    "wires": []
},
{
    "id": "085da39b7c3232a3",
    "type": "function",
```

    "z": "740e3c7a3e719c9b",

    "name": "function 93",

    "func": "var racktemp = flow.get('rack')||[];\nracktemp[msg.topic] = msg.payload;\nflow.set('rack',racktemp);\nmsg.payload = racktemp;\nreturn msg;",

    "outputs": 1,

    "timeout": 0,

    "noerr": 0,

    "initialize": "",

    "finalize": "",

    "libs": [],

    "x": 350,

    "y": 540,

    "wires": [

      [

        "6eb18818be4395e9"

      ]

    ]

  },

  {

    "id": "66b7e168fde0e912",

    "type": "ui_dropdown",

    "z": "740e3c7a3e719c9b",

    "name": "",

    "label": "",

    "tooltip": "",

    "place": "Select option",

    "group": "3412d52c1cb39ad3",

    "order": 2,

"width": "3",

"height": "1",

"passthru": true,

"multiple": false,

"options": [

  {

    "label": "Empty",

    "value": 0,

    "type": "num"

  },

  {

    "label": "Green",

    "value": 1,

    "type": "num"

  },

  {

    "label": "Blue",

    "value": 2,

    "type": "num"

  },

  {

    "label": "Brown",

    "value": 3,

    "type": "num"

  }

],

"payload": "",

"topic": "topic",

```json
        "topicType": "msg",

        "className": "",

        "x": 120,

        "y": 680,

        "wires": [

          [

            "0211f193266ebab5"

          ]

        ]

    },

    {

        "id": "c1dda3b04f3a378b",

        "type": "ui_numeric",

        "z": "740e3c7a3e719c9b",

        "name": "",

        "label": "Position",

        "tooltip": "",

        "group": "3412d52c1cb39ad3",

        "order": 1,

        "width": "3",

        "height": "1",

        "wrap": false,

        "passthru": true,

        "topic": "topic",

        "topicType": "msg",

        "format": "",

        "min": 0,

        "max": "11",
```

```json
        "step": 1,

        "className": "",

        "x": 120,

        "y": 740,

        "wires": [

            [

                "accf8af8de5d645b"

            ]

        ]

    },

    {

        "id": "0211f193266ebab5",

        "type": "function",

        "z": "740e3c7a3e719c9b",

        "name": "function 94",

        "func": "flow.set('productnr',msg.payload);\nreturn msg;",

        "outputs": 1,

        "timeout": 0,

        "noerr": 0,

        "initialize": "",

        "finalize": "",

        "libs": [],

        "x": 290,

        "y": 680,

        "wires": [

            []

        ]

    },
```

```json
{
    "id": "accf8af8de5d645b",
    "type": "function",
    "z": "740e3c7a3e719c9b",
    "name": "function 95",
    "func": "flow.set('position',msg.payload);\nreturn msg;",
    "outputs": 1,
    "timeout": 0,
    "noerr": 0,
    "initialize": "",
    "finalize": "",
    "libs": [],
    "x": 290,
    "y": 740,
    "wires": [
        []
    ]
},
{
    "id": "9c366842f36fa60d",
    "type": "ui_button",
    "z": "740e3c7a3e719c9b",
    "name": "",
    "group": "3412d52c1cb39ad3",
    "order": 3,
    "width": 0,
    "height": 0,
    "passthru": false,
```

        "label": "Update",

        "tooltip": "",

        "color": "",

        "bgcolor": "",

        "className": "",

        "icon": "",

        "payload": "",

        "payloadType": "str",

        "topic": "topic",

        "topicType": "msg",

        "x": 120,

        "y": 800,

        "wires": [

          [

            "651833d0c78b36f1"

          ]

        ]

    },

    {

        "id": "651833d0c78b36f1",

        "type": "function",

        "z": "740e3c7a3e719c9b",

        "name": "function 96",

        "func": "var racktemp = flow.get('rack')||[];\nracktemp[flow.get('position')||0] = flow.get('productnr')||0;\nflow.set('rack',racktemp);\nmsg.payload = racktemp;\nreturn msg;",

        "outputs": 1,

        "timeout": 0,

        "noerr": 0,

        "initialize": "",

        "finalize": "",

        "libs": [],

        "x": 290,

        "y": 800,

        "wires": [

            [

                "6eb18818be4395e9"

            ]

        ]

    },

    {

        "id": "6d260b689aed5c8f",

        "type": "function",

        "z": "740e3c7a3e719c9b",

        "name": "function 97",

        "func": "var arr = flow.get('rack')||[];\nvar empty = 0;\nvar green = 0;\nvar blue = 0;\nvar brown = 0;\nvar emptylocation = -1;\nvar greenlocation = -1;\nvar bluelocation = -1;\nvar brownlocation = -1;\n\nfor (var number = 0; number <= 11; number += 1)\n{\n   if (arr[number] == 0)\n   {\n   empty += 1;\n   }\n   else if (arr[number] == 1)\n   {\n   green += 1;\n   }\n   else if (arr[number] == 2)\n   {\n   blue += 1;\n   }\n   else if (arr[number] == 3)\n   {\n   brown += 1;\n   }\n}\n\nfor (var number = 0; number <= 11; number += 1)\n{\n   if (arr[number] == 0)\n   {\n   console.log('The next empty location is: ' + number);\n   emptylocation = number;\n   break;\n   }\n}\n\nfor (var number = 0; number <= 11; number += 1)\n{\n   if (arr[number] == 1)\n   {\n   console.log('The nearest location for Green box is: ' + number);\n   greenlocation = number;\n   break;\n   }\n}\n\nfor (var number = 0; number <= 11; number += 1)\n{\n   if (arr[number] == 2)\n   {\n   console.log('The nearest location for Blue box is: ' + number);\n   bluelocation = number;\n   break;\n   }\n}\n\nfor (var number = 0; number <= 11; number += 1)\n{\n   if (arr[number] == 3)\n   {\n   console.log('The nearest location for Brown box is: ' + number);\n   brownlocation = number;\n   break;\n   }\n}\n\nconsole.log(\"Total empty locations are: \" + empty);\nconsole.log(\"Total Green boxes are: \" + green);\nconsole.log(\"Total Blue boxes are: \" +

blue);\nconsole.log(\"Total Brown boxes are: \" + brown);\n\nmsg.payload = {\n   \"Total empty locations are \": empty ,\n   \"Total Green boxes are \": green ,\n   \"Total Blue boxes are \": blue,\n   \"Total Brown boxes are \": brown,\n   \"The nearest empty location is \": emptylocation,\n   \"The nearest location for Green box is\" : greenlocation,\n   \"The nearest location for Blue box is\" : bluelocation,\n   \"The nearest location for Brown box is\" : brownlocation\n}\nconsole.log(arr);\narr[bluelocation] = 0;\narr[emptylocation] = 2;\nconsole.log(arr);\n\n//msg.payload = arr;\nreturn msg;",

        "outputs": 1,

        "timeout": 0,

        "noerr": 0,

        "initialize": "",

        "finalize": "",

        "libs": [],

        "x": 550,

        "y": 540,

        "wires": [

          [

            "b9d0d4ac344e8014"

          ]

        ]

    },
    {

        "id": "b9d0d4ac344e8014",

        "type": "debug",

        "z": "740e3c7a3e719c9b",

        "name": "debug 82",

        "active": true,

        "tosidebar": true,

        "console": false,

```json
        "tostatus": false,

        "complete": "false",

        "statusVal": "",

        "statusType": "auto",

        "x": 760,

        "y": 540,

        "wires": []
    },
    {

        "id": "3412d52c1cb39ad3",

        "type": "ui_group",

        "name": "Rack (Single-dimention array)",

        "tab": "fae145b6652fa02c",

        "order": 1,

        "disp": true,

        "width": "6",

        "collapse": false,

        "className": ""
    },
    {

        "id": "fae145b6652fa02c",

        "type": "ui_tab",

        "name": "Loops",

        "icon": "dashboard",

        "order": 8,

        "disabled": false,

        "hidden": false
    }
```

]

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msg.payload : array[12]

▶ [3, 3, 2, 0, 2, 1, 2, 3, 2, 1 …]

1/12/2024, 4:52:04 PM   node: debug 82

msg.payload : Object

▼ object

  Total empty locations are : 1

  Total Green boxes are : 2

  Total Blue boxes are : 5

  Total Brown boxes are : 4

  The nearest empty location is : 3

  The nearest location for Green box is: 5

  The nearest location for Blue box is: 2

  The nearest location for Brown box is: 0