```
import numpy as np
```

```
import csv
```

Problem Statement: *In a given data set, Finding the Best camera based on their Cost, Maximum Resolution, Normal Focus Range, Macro Focus, Weight, Dimensions and Price*

Loading the data set

```
with open('/content/camera_dataset.csv', 'r') as f:
    reader = csv.reader(f)
    data_array = list(reader)
```

Finding the Max and Minimum cost of camera and camera name is

```
data_array = np.array(data_array)
```

```
## Finding the Max and Minimum cost of camera and camera name is?
price_column = data_array[1:, 12].astype(float)
min_price = np.min(price_column)
print(f"Minimum cost of the Camera is {min_price} and the Names of the cameras are {data_array[348][0]} and {data_array[349][0]}")
max_price = np.max(price_column)
print(f"Maximum cost of the Camera is {max_price} and the Names of the cameras are {data_array[53][0]},{data_array[54][0]} and {data_arra
```

```
Minimum cost of the Camera is 14.0 and the Names of the cameras are JVC GC-QX3HD and JVC GC-QX5HD
Maximum cost of the Camera is 7999.0 and the Names of the cameras are Canon EOS-1Ds,Canon EOS-1Ds Mark II and Canon EOS-1Ds Mark III
```

Start coding or generate with AI.

Finding the Best Resolution Camera and that camera Name with their cost

```
resolution = data_array[1:, 2].astype(float)
max_resolution = np.max(resolution)
print(f"The Camera which has Best Maximum Resolution is {max_resolution}. The name of the camera is {data_array[55][0]} and it's cost is
```

```
The Camera which has Best Maximum Resolution is 5616.0. The name of the camera is Canon EOS-1Ds Mark III and it's cost is 7999.0
```

Start coding or generate with AI.

Finding the Effective pixels and that camera Name with their cost

```
pixel = data_array[1:, 4].astype(float)
eff_pixel = np.max(pixel)
print(eff_pixel)
print(f"The Camera which has Effective Pixel is {eff_pixel}. The name of the camera is {data_array[55][0]} and it's cost is {data_array[
```

```
21.0
The Camera which has Effective Pixel is 21.0. The name of the camera is Canon EOS-1Ds Mark III and it's cost is 7999.0
```

Start coding or generate with AI.

Finding the Best Dimension and that camera Name with their cost

```
# Filter out empty strings and convert valid entries to float
dimen_column = np.array([float(x) for x in data_array[1:, 11] if x != '' and x.replace('.', '', 1).isdigit()])

# Calculate the mean
dimen = np.max(dimen_column)
print(dimen)
```

```
240.0
```

```
print(f"The Camera which has Best Dimension is {dimen}. The name of the camera is {data_array[305][0]} and it's cost is {data_array[305]
```

```
The Camera which has Best Dimension is 240.0. The name of the camera is HP Photosmart 635 and it's cost is 179.0
```

```
data_array[0:,0].itemsize
```

```
136
```

```
print(data_array[0:,0].shape, data_array[0].shape)
```

```
(1039,) (13,)
```

Finding the Max. Zoom Width

```
zoom_width = data_array[1:, 5].astype(float)
max_zoom_width = np.max(zoom_width)
max_zoom_width
```

```
52.0
```

```
print(f"The Camera which has Max. Zoom width is {max_zoom_width}. The name of the cameras are {data_array[478][0]}, {data_array[1026][0]
```

```
The Camera which has Max. Zoom width is 52.0. The name of the cameras are Nikon Coolpix 100, Toshiba PDR-M11 and it's cost is 229.0,
```

Double-click (or enter) to edit

Filling the values that are filled with 'unnecessary data' like " "

```
# Iterate through each row and each column in the slice [1:, 0:13]
filtered_data = np.array([
    [float(x) if x != '' else np.nan for x in row]  # Convert to float or np.nan if empty
    for row in data_array[1:, 1:13]  # Loop through rows from 1 onward, columns 0 to 12
])
```

Finding the Normal Focus Range

```
normal_focus = data_array[1:, 7].astype(float)
nor_focus = np.max(normal_focus)
nor_focus
```

```
120.0
```

```
print(f"The Camera which has Max. Normal focus range is {nor_focus}. The name of the camera is {data_array[843][0]} and it's cost is {da
```

```
The Camera which has Max. Normal focus range is 120.0. The name of the camera is Samsung Digimax 202 and it's cost is 229.0
```

Start coding or generate with AI.

Finding the Macro focus range

```
macro_focus = np.array([float(x) for x in data_array[1:, 8] if x != '' and x.replace('.', '', 1).isdigit()])
mac_focus = np.max(macro_focus)
mac_focus
```

```
85.0
```

```
print(f"The Camera which has Max. Zoom width is {mac_focus}. The name of the camera is {data_array[303][0]}, {data_array[351][0]} and it
```

```
The Camera which has Max. Zoom width is 85.0. The name of the camera is HP Photosmart 435, Kodak C310 and it's cost is 179.0,129.0
```

Double-click (or enter) to edit

Conclusion

- **Based on our analysis, the following cameras are highly recommended**
- **By Cost**
  - **JVC GC-QX3HD and JVC GC-QX5HD** with Minimum cost of **14.0 dollars**
  - **EOS-1Ds,Canon EOS-1Ds Mark II and Canon EOS-1Ds Mark III** with Maximum cost of **7999 dollars**
- **With Best Resolution**
  - **Canon EOS-1Ds Mark III** with Resolution of **5616 pixels**
- **Effective pixels**
  - **Canon EOS-1Ds Mark III** with Pixel of **21.0**
- **Best Dimension**
  - **HP Photosmart 635** with Cost of **$179.0** and with Dimension of **240**
- **Max. Zoom Width**
  - **Nikon Coolpix 100, Toshiba PDR-M11** with costs of 229.0,**62.0** with Max. Zoom width with **52.0**
- **Normal Focus Range**
  - Name of the Camera is **Samsung Digimax 202** and it's cost is **$229.0** and it's Normal focus range is **120**
- **Macro focus range**
  - Name of the Cameras are **HP Photosmart 435 and Kodak C310** with costs are of $179.0 and$**129.0** and with Macro Focus range of **85.0**

Finally You can Buy any of the Best Cameras based on the Above lists like Cost, Resolution, and Dimenstion. But I recommand

- **Canon EOS-1Ds Mark III and HP Photosmart (have 2 models, 635 and 435) cameras having Good Cost and of Quality**