ps7 tips

OpenCV SGBM

stereo = StereoSGBM_create()

disparity_map = stereo.compute(left, right)

Note:

we do not have camera matrix, therefore, we need to convert disparity map to point cloud manually

Disparity map is inverse, you need to be careful about generating point cloud

How to decide the depth

- Check the result shape
- Bowling: should be sphere
- Two ways to check results
  - Open3D (right side proram)
  - CloudCompare

```
import open3d as o3d
import argparse



parser =
argparse.ArgumentParser(description='Combine 3
images')
parser.add_argument('-i', '--input', help='Input
ply file', default="sample.ply")
args = parser.parse_args()
plyfile = args.input


if __name__ == "__main__":
    print("reading: ", plyfile)
    ply = o3d.io.read_point_cloud(plyfile)
    o3d.visualization.draw_geometries([ply])
```

PLY file

- 2 portion
  - Header
    - Change number of vertex
  - Data
    - X Y Z R G B

H

```
ply
format ascii 1.0
comment made by CVE
comment this file is a cube vertices
element vertex 8
property float32 x
property float32 y
property float32 z
property uint8 red
property uint8 green
property uint8 blue
end_header
```

D

```
0 0 0  255 255 255
0 0 1  0 0 255
0 1 1  0 255 0
0 1 0  0 255 255
1 0 0  255 0 0
1 0 1  255 0 255
1 1 1  255 255 0
1 1 0  128 128 128
```