

## Report assignment 2

Answer 4:

Answer 4.1)

```
Focal Length (x, y): 944.4698614260614 943.3663655595952
Principal Point: 650.1710388473065 476.40146082170287
Skew: 0.0
```

Answer 4.2)

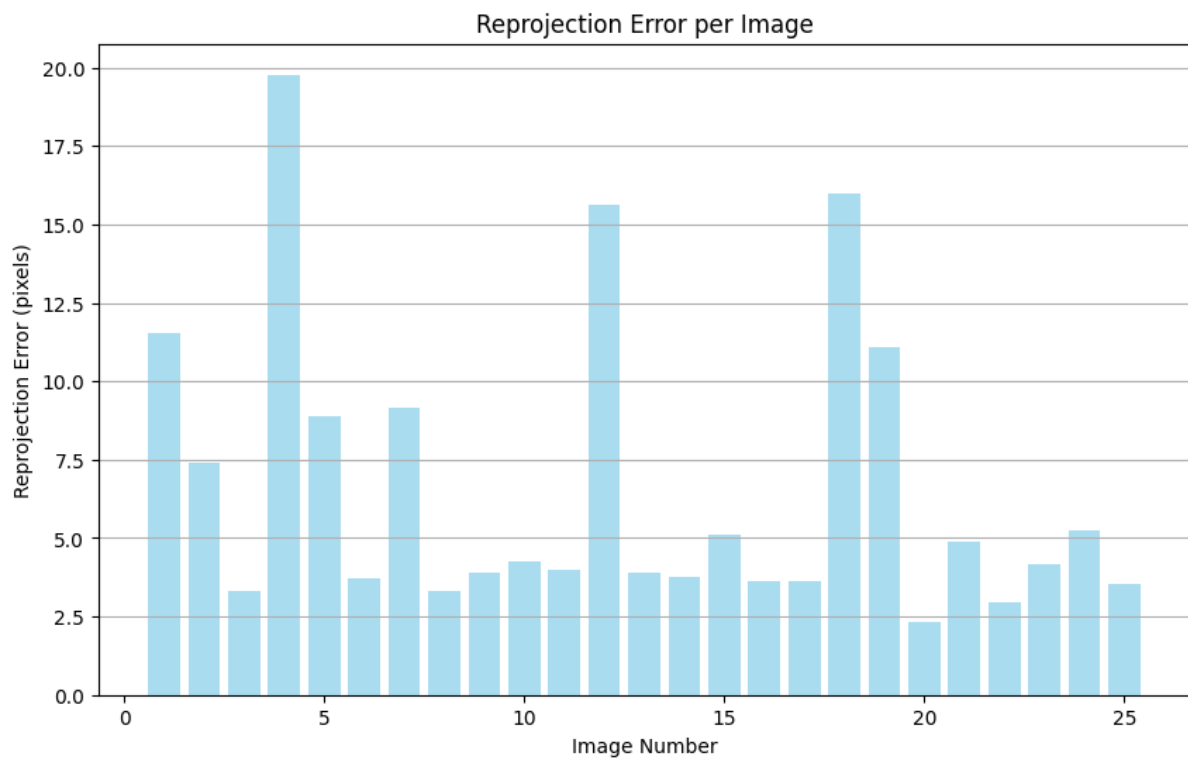
```
Image 1:
Rotation Vector: [ 0.15708191  0.18054337 -1.59159547]
Translation Vector: [-2.83551177  2.54751943 10.40365217]
Image 2:
Rotation Vector: [ 0.48604906  0.51403931 -1.53216908]
Translation Vector: [-3.93311145  1.69123117 12.62930112]
Image 3:
Rotation Vector: [-0.2623289  -0.27391756 -1.51228119]
Translation Vector: [-4.44471016  0.15314807 11.76438105]
Image 4:
Rotation Vector: [-0.05545453  0.27181625 -1.09165755]
Translation Vector: [-7.49662967  0.95675015 14.43728482]
Image 5:
Rotation Vector: [-0.02807289  0.08483746  0.66295439]
Translation Vector: [-2.40830608 -1.90067725 13.83589721]
Image 6:
Rotation Vector: [ 0.313694  0.31798799 -2.36636881]
Translation Vector: [-0.82619491  3.73714408 16.66287132]
Image 7:
Rotation Vector: [ 0.07509895  0.12015679 -2.00247624]
Translation Vector: [-6.4014899  7.40920875 17.23696507]
Image 8:
Rotation Vector: [ 0.08983488  0.13141848 -1.59155782]
Translation Vector: [-3.92038684  2.75576613 11.45755651]
Image 9:
...
Translation Vector: [-4.14618271  2.5798498 11.55931677]
Image 25:
Rotation Vector: [ 0.058655  0.07762223 -1.5721768 ]
Translation Vector: [-4.11767364  3.06271236  9.24467386]
```

Answer 4.3)



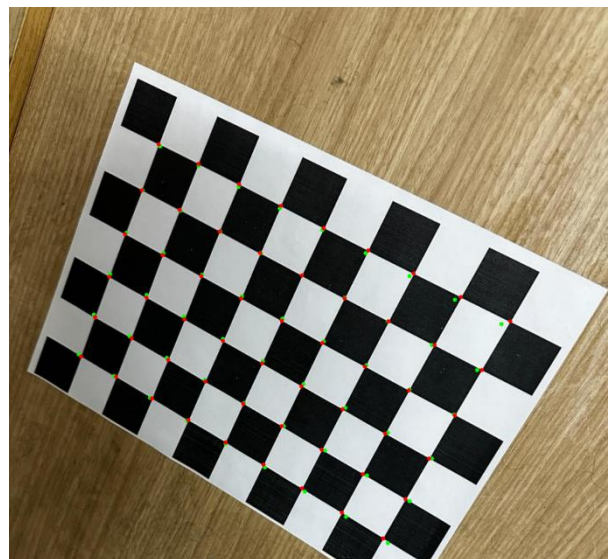
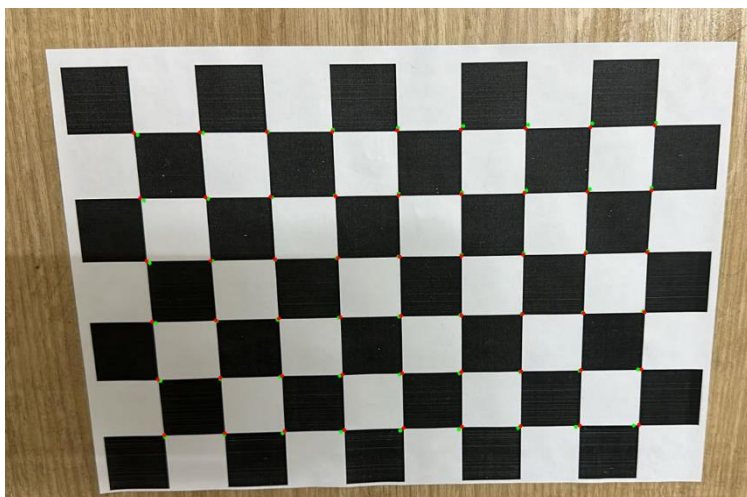
In distorted images, straight lines might appear curved outwards (barrel distortion) or inwards (pincushion distortion) due to the lens imperfections. Applying the estimated distortion coefficients during undistortion corrects for these effects, making the straight lines appear straighter in the undistorted images.

Answer 4.4)



Mean Reprojection Error: 6.603654648976153 pixels  
Standard Deviation: 4.6340909769844725 pixels

Answer 4.5)



There exist 23 more images like them.