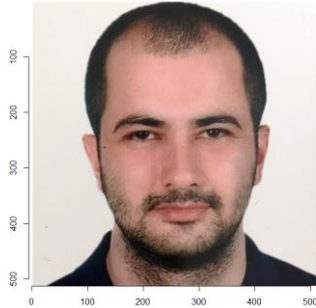


**2a)**

```
burak <- load.image('C:/Users/BURAK CAN HELVACI/Desktop/IMG_8751_resized.jpg')  
plot(burak)
```



```
typeof(burak)
```

```
[1] "double"
```

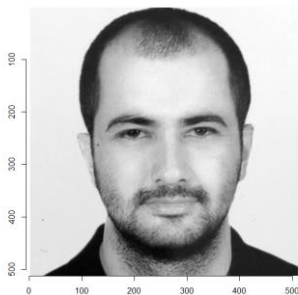
```
dim(burak)
```

```
[1] 512 512  1  3
```

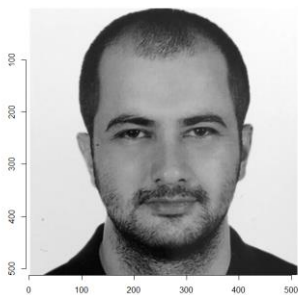
#Structure of image is 3 matrices with dimesions 512x512, meaning 512x512 RGB. Type of image is double.

**2b)**

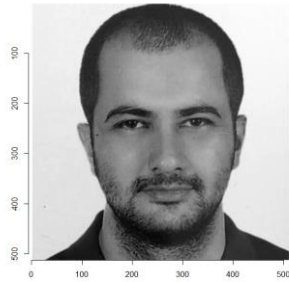
```
plot(R(burak))
```



```
plot(G(burak))
```



`plot(B(burak))`



**2c)**

```
rmean <- colMeans(R(burak))
```

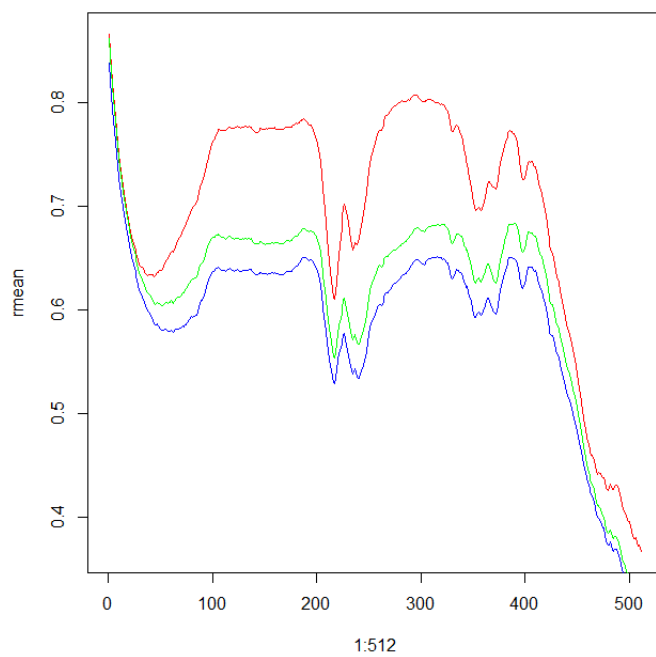
```
gmean <- colMeans(G(burak))
```

```
bmean <- colMeans(B(burak))
```

```
plot(1:512,rmean,type="l", col="red")
```

```
lines(1:512,gmean,type="l",col="green")
```

```
lines(1:512,bmean,type="l", col = "blue")
```



**2d)**

#for red channel

```
rFirst <-R(burak)[1:256,]
```

```
rSec <-R(burak)[257:512,]
```

```
rSecn <-rSec-rFirst
```

```
rSecn[rSecn<0] = 0 #negative pixels become 0
```

```
newmatr <- rbind(rFirst,rSecn)
```

```
burakr <- image(newmatr,useRaster=TRUE, axes=FALSE)
```



#for green channel

```
gFirst <-G(burak)[1:256,]
```

```
gSec <-G(burak)[257:512,]
```

```
gSecn <-gSec-gFirst
```

```
gSecn[gSecn<0] = 0 #negative pixels become 0
```

```
newmatg <- rbind(gFirst,gSecn)
```

```
burakg <- image(newmatg,useRaster=TRUE, axes=FALSE)
```

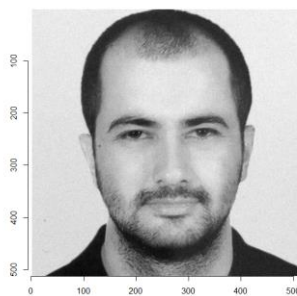


```
#for blue channel
bFirst <- B(burak)[1:256,]
bSec <- B(burak)[257:512,]
bSecn <- bSec - bFirst
bSecn[bSecn < 0] = 0 #negative pixels become 0
newmatb <- rbind(bFirst, bSecn)
burakb <- image(newmatb, useRaster=TRUE, axes=FALSE)
```

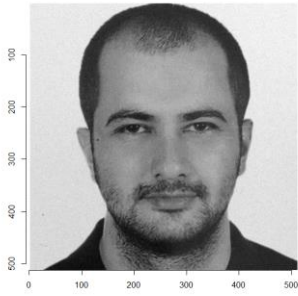


**2e)**

```
maxVal <- max(burak)
maxNoise <- 0.1 * maxVal
randNoise <- runif(512*512*3, min = 0, max = maxNoise)
noisyImage <- burak + randNoise
plot(R(noisyImage))
```



```
plot(G(noisyImage))
```



```
plot(B(noisyImage))
```

