Image Formats

- We often work with images in a standard format (JPEG, TIFF, GIF)
- How do we read/write such images with OpenGL?
- No support in OpenGL
  - OpenGL knows nothing of image formats
  - Some code available on Web
  - Can write readers/writers for some simple formats in OpenGL

Displaying a PPM Image

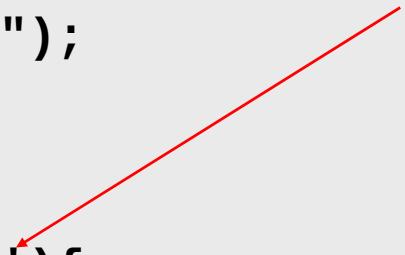
- PPM is a very simple format
- Each image file consists of a header followed by all the pixel data
- Header

```
P3
# comment 1
# comment 2
      .
#comment n
rows columns max_value
pixels
```

Reading the Header

```
FILE *fd;
int  k, nm;
char c;
int i;
char b[100];
float s;
int red, green, blue;
printf("enter file name\n");
scanf("%s", b);
fd = fopen(b, "r");
fscanf(fd,"%[^\n] ",b);
if(b[0]!='P'|| b[1] != '3'){
       printf("%s is not a PPM file!\n", b);
       exit(0);
}
printf("%s is a PPM file\n",b);
```

check for “P3” in first line



Reading the Header (cont)

```
fscanf(fd, "%c",&c);
while(c == '#')
{
      fscanf(fd, "%[^\n] ", b);
      printf("%s\n",b);
      fscanf(fd, "%c",&c);
}
      ungetc(c,fd);
```

skip over comments by looking for # in first column

Reading the Data

```
fscanf(fd, "%d %d %d", &n, &m, &k);
printf("%d rows  %d columns  max value= %d\n",n,m,k);

nm = n*m;
image = malloc(3*sizeof(GLuint)*nm);

for(i=nm;i>0;i--)
{
      fscanf(fd,"%d %d %d",&red, &green, &blue );
      image[3*nm-3*i]=red;
      image[3*nm-3*i+1]=green;
      image[3*nm-3*i+2]=blue;
}
```