

# IceMan - Input and Output

Functions to read and save images. The governing philosophy is to retain all the precision of the file format during loading, and to choose a format capable of representing in-memory images during save operations.

## Load(*fileName*, *subImageIndex* = 0)

The file format is automatically determined, and the returned *Image* has a precision large enough to represent the contents of the file. Practically, this means that images with 8 bits per channel (including color-mapped images) are read in as *Fractional* images, and all others are read in as *Float* images.

Most popular file formats are recognized and read in correctly. The following file formats can be read:

- TIFF
- OpenEXR
- ALIAS
- ALIASD
- GZ
- JPEG
- SGIRGB
- TGA
- RAS
- XPM
- Z
- BKT
- BMP
- DPX
- GIF
- PCD
- TX

## Parameters

*fileName*

Name of file to be loaded (string)

*subImageIndex*

Index of subimage (for multi-image files)

## Example

```
fileName = 'image.tif'  
image = ice.Load(fileName)
```

## Save(*fileName*, *outputFormat*)

Save image to file using specified format. If a format is not specified, an appropriate choice will be used. This function throws `ice.error` for failure.

## Parameters

*fileName*

Name of file to save to (string).

*outputFormat*

Output format (int). Can be one of:

- `ice.constants.FMT_TIFF8`
- `ice.constants.FMT_TIFF16`
- `ice.constants.FMT_TIFFFLOAT`
- `ice.constants.FMT_EXRHALF`
- `ice.constants.FMT_EXRFLOAT`
- `ice.constants.FMT_EXRUINT32`
- `ice.constants.FMT_PNG`
- `ice.constants.FMT_JPEG`

Note: It is worth mentioning that dithering is **not** done automatically while saving to a lower-precision format.

```
c = ice.Card(ice.constants.FLOAT, [1.0, 0.5, 0.3])
fileName = 'image.tif'
format = ice.constants.FMT_TIFFFLOAT
c.Save(fileName, format)
```

The *FMT\_JPEG* format looks at the image's meta-data dictionary to determine the "quality" factor of the output image. The "quality" of a JPEG image is a number between 1 and 100.

```
c = ice.Card(ice.constants.FLOAT, [1.0, 0.5, 0.3])
fileName = "image.jpg"
format = ice.constants.FMT_JPEG
c.SetMetaDataItem('JPEG_QUALITY', 50)
c.Save(fileName, format)
```