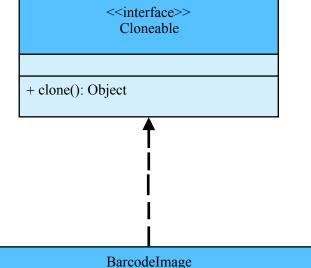# Optical Barcode Program

<<interface>> BarcodeIO

+ scan(BarcodeImage bc): boolean
+ readText(String text): boolean
+ generateImageFromText(): boolean
+ translateImageToText(): boolean
+ displayTextToConsole(): void
+ displayImageToConsole(): void

DataMatrix

+ BLACK_CHAR: char
+ WHITE_CHAR: char
- image: BarcodeImage
- text: String
- actualWidth: int
- actualHeight: int

+ DataMatrix()
+ DataMatrix(BarcodeImage image)
+ DataMatrix(String text)
+ readText(String text): boolean
+ scan(BarcodeImage image): boolean
+ getActualWidth():int
+ getActualHeight(): int
+ generateImageFromText(): boolean
+ translateImageToText(): boolean
+ displayTextToConsole(): void
+ displayImageToConsole(): void
- readCharFromCol(int col): char
- writeCharToCol(int col, int code): boolean
- computeSignalWidth(): int
- computeSignalHeight(): int
- cleanImage(): void
- moveImageToLowerLeft(): void
- shiftImageDown(int offset): void
- shiftImageLeft(int offset): void
- countBlankRows(): int
- countBlankColumns(): int

<<interface>> Cloneable

+ clone(): Object

BarcodeImage

+ MAX_HEIGHT: int
+ MAX_WIDTH: int
- imageData: boolean[][]

+ BarcodeImage()
+ BarcodeImage(String[] strData)
+ BarcodeImage(BarcodeImage other)
- checkSize(String[] data): boolean
- initImageData(): void
+ getPixel(int row, int col): boolean
+ setPixel(int row, int col, boolean value): boolean
+ clone(): BarcodeImage
+ displayToConsole(): void