```
Colorization
# std::string type
# const unsigned char maxColorValue
# const unsigned char minColorValue
+ std::string get_type()
+ virtual unsigned char
     _max_color_value()=0
+ virtual unsigned char
get_min_color_value()=0
+ virtual ~Colorization()
# Colorization(std::string type)
                    Δ
                 Shading
     std::string type
    + Shading(std::string subtype)
       ~Shading()
    + virtual unsigned char
     get_max_color value()
    + virtual unsigned char
     get_min_color_value()
    + virtual unsigned char
     calculate_bw()=0
    + virtual unsigned char
    calculate_r()=0
    + virtual unsigned char
     calculate_g()=0
    + virtual unsigned char
     calculate_b()=0
                      -shade
               Mandelbrot
   · int iter
  - int iterMax

    double escapeRadius

  - std::complex< double > c
  - double r
  std::complex< double > z
  - std::complex< double > dC
  - double q

    double cardioid

  - const double bulb
  - double cxMin

    double cxMax

    double cyMin

  - double cyMax
  - int width
  - int height
  - int pX
  - int pY

    double pixWidth

    double pixHeight

    double a

    double prevA

  - double stripeDensity
  - int iSkip

    double d

  - double de

    Mandelbrot(int width,

   int height)
  + Mandelbrot(int pX, int
  pY, int width, int height)
   Mandelbrot(const Mandelbrot
   &oldMandelbrot)
  + ~Mandelbrot()
  + void current_pixel(int pxln, int pyln)
  + void set_image(int widthln,
  int heightIn)
  + void set_plane(double
  cxMinln, double cxMaxln,
double cyMinln, double cYMaxln)
+ void set_stripe_density
  (double stripeDensityIn)
   void set_iSkip(int iSkipIn)
  + void set_border(int thinIn)
  + void get_c()
+ void iterate()
  + unsigned char colorize_bw()
  + bool shape_check()
  + double get_t()
  + void interpolate()
  + void average()
  void describe_
                    _border()
  + bool in_border()
+ bool in_set()
  + void reset()
```