Friends

```
/*
      . Topics:
          . Giving special privileges to non family members


*/
```

Friends

```
export class Pixel {

        // Declare Canvas and print_pixel as friends
        friend class Canvas;
        friend void print_pixel(const Pixel& p);
    public:

        // Constructor with all arguments
        Pixel(uint32_t color, unsigned int x, unsigned int y)
            : m_color{color}, m_pos_x{x}, m_pos_y{y} {
            fmt::print("Three-argument constructor\n");
        }

    private:
        uint32_t m_color{0xFF000000};
        unsigned int m_pos_x{0};
        unsigned int m_pos_y{0};
};
```

Friends

```
// Class Canvas is a friend of Pixel and can modify its private members
export class Canvas {
public:
    void modify_pixel(Pixel& p, uint32_t new_color, unsigned int new_x, unsigned int new_y) {
        // Directly accessing private members of Pixel
        p.m_color = new_color;
        p.m_pos_x = new_x;
        p.m_pos_y = new_y;
    }

    void display_pixel(const Pixel& p) const {
        fmt::print("Canvas displaying Pixel: color = 0x{:08X}, x = {}, y = {}\n",
                   p.m_color, p.m_pos_x, p.m_pos_y);
    }
};

// Friend function print_pixel that can access private members of Pixel
export void print_pixel(const Pixel& p) {
    fmt::print("Pixel: color = 0x{:08X}, x = {}, y = {}\n", p.m_color, p.m_pos_x, p.m_pos_y);
}
```