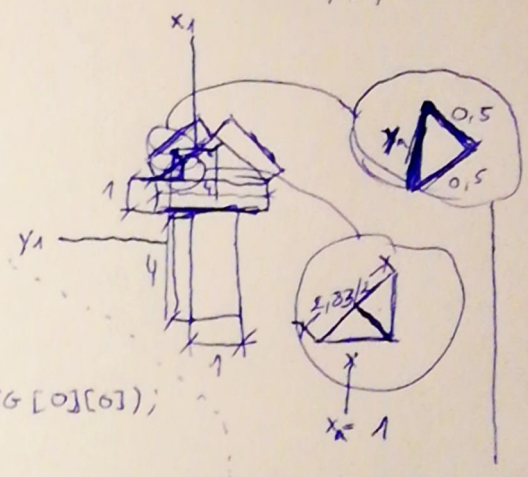
Aleix Serra Llorens — INDI — 26/3/21

47844438E

1-




```
void modelTransformCubA(){
    glm::mat4 TG(1.0f);
    TG = glm::translate(TG, glm::vec3(5,0,5));
    TG = glm::scale(TG, glm::vec3(1,4,1));
    TG = glm::scale(TG, glm::vec3(0.5f));
    glUniformMatrix4fv(transLoc, 1, GL_FALSE, &TG[0][0]);
}
```

$x_a = 0,7$

$x_1 = x_a + x_a = 1,7$

$y_1 = y_a + 5 + x_a = 6,7$

```
void modelTransformCubB(){
    glm::mat4 TG(1.0f);
    TG = glm::translate(TG, glm::vec3(5, 4.5, 5));
    TG = glm::scale(TG, glm::vec3(4,1,4));
    TG = glm::scale(TG, glm::vec3(0.5f));
    glUniformMatrix4fv(transLoc, 1, GL_FALSE, &TG[0][0]);
}
```

Si és C1, li restes a 5.
Si és C2, li sumes a 5.

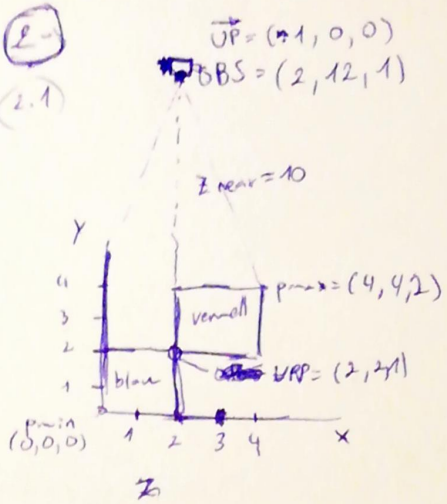
```
void modelTransformC1(){
    glm::mat4 TG(1.0f);
    TG = glm::translate(TG, glm::vec3(3.65, 6.78, 5));
    TG = glm::rotate(TG, glm::radians(45.), glm::vec3(0,0,1));
    TG = glm::scale(TG, glm::vec3(2.83, 1, 4));
    TG = glm::scale(TG, glm::vec3(0.5f));
    glUniformMatrix4fv(transLoc, 1, GL_FALSE, &TG[0][0]);
}
```

float( )

```
void modelTransformC2(){
    glm::mat4 TG(1.0f);
    TG = glm::translate(TG, glm::vec3(6.78, 6.78, 5));
    TG = glm::rotate(TG, float(glm::radians(-45.)), glm::vec3(0,0,1));
    TG = glm::scale(TG, glm::vec3(2.83, 1, 4));
    TG = glm::scale(TG, glm::vec3(0.5f));
    glUniformMatrix4fv(transLoc, 1, GL_FALSE, &TG[0][0]);
}
```

2.

2.1



VRP = (2, 1, 1)

OBS = (2, 12, 1)

UP = (1, 0, 0)

$Z_{near} = 10$

$Z_{far} = 14$

$ra = \frac{1200}{400} = 3$

$FOV = 2 * arctg(3/10) = \boxed{33.4^\circ}$

2.2

2.3

$ra\_v = \frac{400}{1200} = 0,33$ → cal ampliar alçada

$FOV' = 2 * atactg(tg(FOV)/0,33) = \boxed{155,4^\circ}$