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CST426: WK04HW00

Dr.C

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WK04HW00

Questions and Answers

1. What game did you choose?

The game that I chose is Contra from Nintendo Entertainment System.

https://www.youtube.com/watch?v=Zm_UTSzsr90&ab_channel=xISOmaniac

2. Why did you chose this game?

I chose this game because I played this game ever since I was 6. This is special to me because me and my dad played this together on hot summer nights.

3. What aspect did you decide to flyweight?

For example, in Contra there are a lot of gun varieties and there are unique ones, this lends itself to flyweighting because the "mesh" could be externalized.

4. flyweight pseudocode

```
/*Quick Psuedocode
Class Weapon{

WeaponMesh* laserMesh;
int health; //when you shoot to get weapon
int damage;
int firingRate;
animationType animation;
string name;

Class WeaponMesh{
}
*/

class WeaponMesh{
public:
int health; //when you shoot to get weapon
int damage;
int firingRate;
animationType animation;
string name;

void print(){
    cout << "Name: " << name << endl
        << "Health: " << health << endl
        << "Damage: " << damage << endl
        << "Firing Rate: " << firingRate
        << "Animation type: " << animation << endl;
}
};

class laserMesh : public WeaponMesh{
public:
    *laserMesh(){
        animationType animation = "straight animation";
        name = "Laser";
    }
};

class Laser : public Weapon{
public:
    Laser(string weapon){
        id = 01;
        health = 1;
        damage = 30;
        firingRate = 3;
        this->weapon = weapon;
        color = new LaserMesh;
    }
};
```

What aspect did you decided to memento?

Using the main character, he has several attributes that need to be saved such as lives, score, position (when you pause), and level.

5. memento pseudocode

```
/*Quick Psuedocode
player {
    player loadPlayer (playerMemento* characterMemento);
    playerMemento* getPlayerMemento;
}
player::getPlayerMemento{

Memento{}}

playerMemento : Memento {
    int score;
    int level;
    int posx;
    int posy;
    int lives;

}
*/
class playerMemento{
public:
    int score;
    int level;
    int posx;
    int posy;
    int lives;
    playerMemento(int score, int level, int posx, int posy,
    int lives){
        this->id = id;
        this->level = level;
        this->posx = posx;
        this->posy = posy;
        this->lives = lives;
    }
};

void loadPlayer(playerMemento *memento, Player &player){
    if(memento->id == 01){
        Player *Arnold = new mainCharacter(memento->size);
        Arnold->score = memento->score;
        Arnold->level = memento->level;
        Arnold->posx = memento->posx;
        Arnold->posy = memento->posy;
        Arnold->lives = memento->lives;
        player = *Arnold;
    }}
}
```