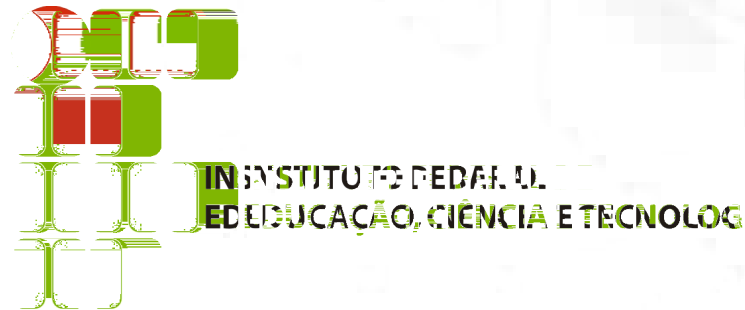


Creational Patterns

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Creational Patterns

-
-
- *class creational pattern*
- *object creational pattern*
-

Creational Patterns

hard-coded

creational patterns

Creational Patterns

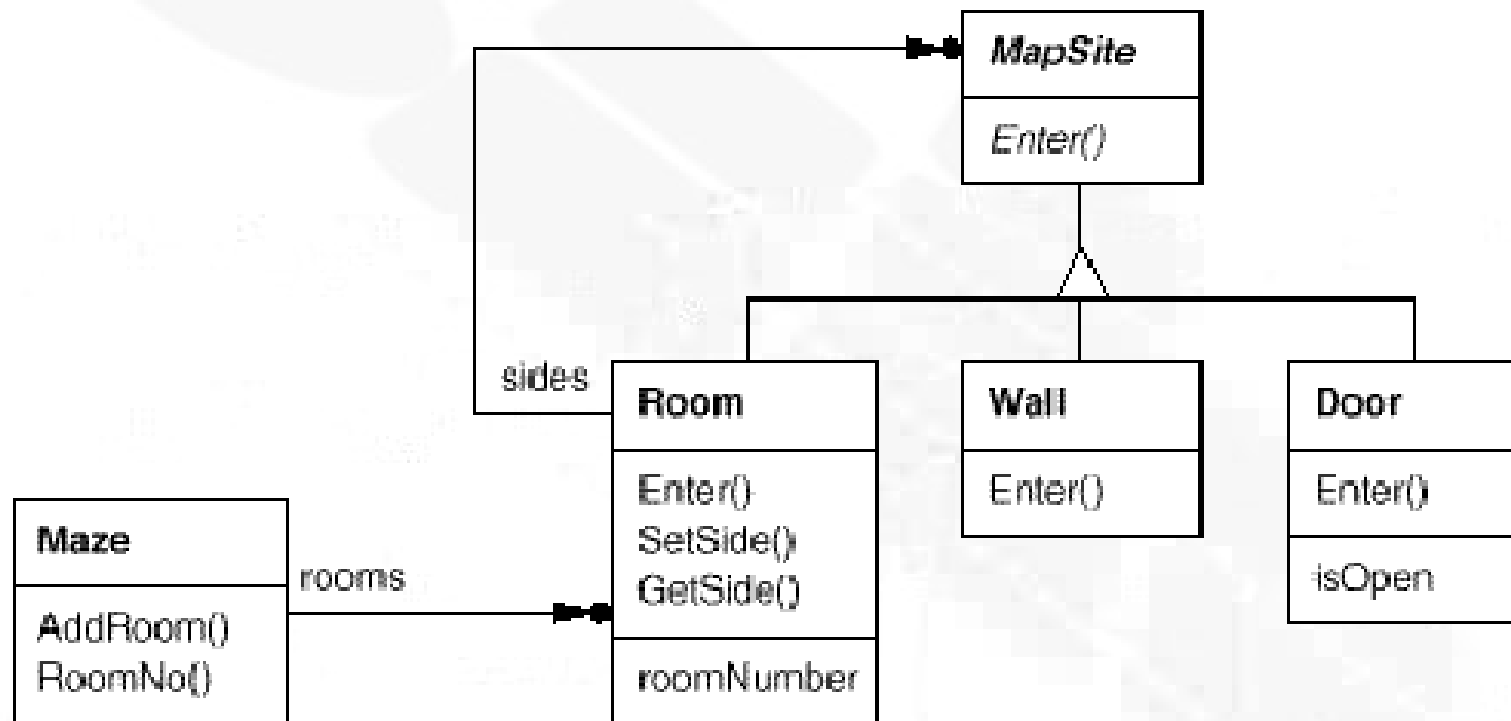
-
-
-
- *Creational patterns*
 - Factory*
- *Creational patterns*
 - Singleton*
 - patterns*
 - Prototype*
 - Builder*
 - Abstract*

Creational Patterns

- *creational patterns*

- ---

Creational Patterns



Creational Patterns

```
class Room : public MapSite {
public:
    Room(int roomNo);

    MapSite* GetSide(Direction) const;
    void SetSide(Direction, MapSite*);

    virtual void Enter();

private:
    MapSite* _sides[4];
    int _roomNumber;
};
```

Creational Patterns

```
class Wall : public MapSite {
public:
    Wall();

    virtual void Enter();
};

class Door : public MapSite {
public:
    Door(Room* = 0, Room* = 0);

    virtual void Enter();
    Room* OtherSideFrom(Room*);

private:
    Room* _room1;
    Room* _room2;
    bool _isOpen;
};
```

Creational Patterns

```
class Maze {  
public:  
    Maze();  
  
    void AddRoom(Room*);  
    Room* RoomNo(int) const;  
private:  
    // ...  
};
```

Creational Patterns

```
Maze* MazeGame::CreateMaze () {
    Maze* aMaze = new Maze;
    Room* r1 = new Room(1);
    Room* r2 = new Room(2);
    Door* theDoor = new Door(r1, r2);

    aMaze->AddRoom(r1);
    aMaze->AddRoom(r2);

    r1->SetSide(North, new Wall);
    r1->SetSide(East, theDoor);
    r1->SetSide(South, new Wall);
    r1->SetSide(West, new Wall);

    r2->SetSide(North, new Wall);
    r2->SetSide(East, new Wall);
    r2->SetSide(South, new Wall);
    r2->SetSide(West, theDoor);

    return aMaze;
}
```

Creational Patterns

-
- *hard-coded layout*
- *layout*
→
- *creational patterns*
-
- *CreateMaze*
DoorNeedingSpell EnchantedRoom
layout

Creational Patterns

- *CreateMaze*

MazeGame
(Factory Method)

- *CreateMaze*

(Abstract Factory)

- *CreateMaze*

layout (Builder)

Creational Patterns

- *CreateMaze*

Prototype

Singleton

Creational Patterns

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