

# Template Method

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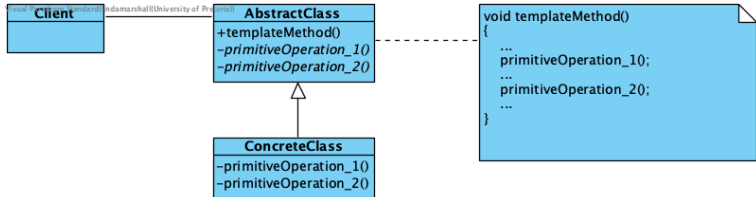
## Name and Classification:

Template Method

(Class Behavioural)

**Intent:** “Define the skeleton of an algorithm in an operation, deferring some steps to subclasses. Template Method lets subclasses redefine certain steps of an algorithm without changing the algorithm’s structure.”

GoF(325)



## AbstractClass

- defines abstract primitive operations that need to be defined by the concrete classes
- implements the template method operation that provides a skeleton of an algorithm

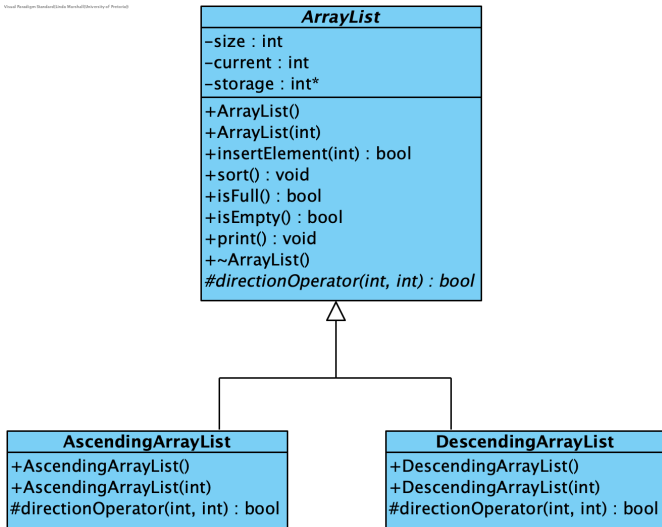
## ConcreteClass

- implements the primitive operations defined by the Abstract class

## Related Patterns

- **Factory Methods** (107): Often called by template methods.
- **Strategy** (315): Varies the entire algorithm while template method varies part of the algorithm.

Visual Design Standard@Indra Warkah@University of Ponorogo



The Game example comprises 3 classes,  
Game an abstract class defining a Template  
Method (`void playOneGame();`).  
Monopoly and Chess are two games  
(concrete classes) inheriting from Game.



The Template Method (function) is defined by:

```
void Game :: playOneGame()
{
    initializeGame();
    int j = 0;
    while (!endOfGame())
    {
        makePlay(j);
        j = (j + 1) % playerCount;
    }
    printWinner();
}
```