



```
@startuml
```

```
title PA-1: Class Outline
```

```
interface DocoMoveStrategy
```

```
{
    +moveStrategy()
}
```

```
class Doco
```

```
{
    -*moveStrategy : DocoMoveStrategy
    -direction : pair string pair int
    -position : pair int
    +adjoined_cells : vector pair int
    +adjoined_occupied_cells : vector pair int
    +adjoined_food_cells : vector pair int
    +move_options : vector pair int
    +move(int world_w, int world_h)
}
```

```
interface AbstractSimpleDocoFactory
```

```
{
    +note--implemented_as_singleton
    +createDocoDefault()
    +createDocoDiagonal()
    +createDocoHorizontal()
    +createDocoVertical()
}
```

```
class CellGrid
```

```
{
    #my_grid_size : GridSize
    #char_matrix : vector<vector<char> >
    #temp_adjoined_cells : vector<pair<int,int> >
    +cell_matrix : vector<vector<Cell> >
    +findAjoinedCells(int, int) : vector<pair<int,int> >
    +findAjoinedCellsFood() : vector<pair<int,int> >
    +findAdjoinedOccupiedCells() : vector<pair<int,int> >
}
```

```
class WorldBoard
```

```
{
    -food_positions : vector<pair<int, int> >
    -obstacle_positions: vector<pair<int, int> >
    +doco_vect : vector<Doco>
}
```

```
class main
```

```
class DataParser
```

```
class Directions
```

```
class Simulator
```

```
class GridSize
```

```
class Cell
```

```
class Viewer
```

```
class DocoFactory {
```

```
    +createDocoDefault()
    +createDocoDiagonal()
    +createDocoHorizontal()
    +createDocoVertical()
}
```

```

}
interface AbstractDoco
class DocoMovePatternDiagonal
class DocoMovePatternHorizontal
class DocoMovePatternVertical
class DocoMovePatternDefault

CellGrid "1" *-down- "*" Cell
CellGrid "1" *-down- "1" GridSize
WorldBoard "1" o-down- "1" CellGrid
WorldBoard "1" o-- "1" DataParser
main "1" o-- "1" Simulator

Doco "1" *-- "1" Directions
Doco ..|> AbstractDoco : implements
class DocoMovePatternDiagonal extends DocoMoveStrategy
class DocoMovePatternHorizontal extends DocoMoveStrategy
class DocoMovePatternVertical extends DocoMoveStrategy
class DocoMovePatternDefault extends DocoMoveStrategy
interface DocoMoveStrategy extends Doco
AbstractSimpleDocoFactory <|.. DocoFactory : implements
DocoFactory ..> Doco : creates

WorldBoard ..> AbstractDoco : uses
WorldBoard ..> AbstractSimpleDocoFactory : uses

main <-- Viewer
main <-- WorldBoard

@enduml

```