

Pseudocode

1 General Conditions

```
function GENERALCONDITIONS(startRow, startColumn, endRow, endField)
  if  $!(0 \leq \textit{startRow} \leq 8) \parallel !(0 \leq \textit{startColumn} \leq 8) \parallel !(0 \leq \textit{endRow} \leq 8) \parallel$ 
 $!(0 \leq \textit{endColumn} \leq 8)$  then
    return false
  end if
  if  $\textit{isWhite} \neq \textit{whitesTurn}$  then
    return false
  end if
  if  $\textit{startRow} == \textit{endRow} \ \&\& \ \textit{startColumn} == \textit{endColumn}$  then
    return false
  end if
end function

function CHECKENDFIELD(endRow, endColumn)
  if  $\textit{Field}[\textit{endRow}][\textit{endColumn}].\textit{empty} == \textit{true}$  then
    return true
  end if
  if  $\textit{Field}[\textit{endRow}][\textit{endColumn}].\textit{Figure.isWhite} == \textit{isWhithe}$  then
    return false
  end if
  return true
end function
```

2 Pawn

```
if  $i \geq \textit{maxval}$  then
   $i \leftarrow 0$ 
else
  if  $i + k \leq \textit{maxval}$  then
     $i \leftarrow i + k$ 
  end if
end if
```

3 Rook

```
if  $!((\textit{rowDiff} == 0 \ \&\& \ \textit{columnDiff} \neq 0) \parallel (\textit{rowDiff} \neq 0 \ \&\& \ \textit{columnDiff} == 0))$ 
then
  return false
end if
if  $\textit{rowDiff} == 0$  then
   $\textit{column} \leftarrow \min(\textit{startColumn}, \textit{endColumn})$ 
```

```

     $maxColumn \leftarrow \max(startColumn, endColumn)$ 
    while  $column < maxColumn$  do
        if  $Field[startRow][column].empty \neq true$  then
            return false
        end if
         $column \leftarrow column + 1$ 
    end while
else
     $row \leftarrow \min(startRow, endRow)$ 
     $maxRow \leftarrow \max(startRow, endRow)$ 
    while  $row < maxRow$  do
        if  $Field[startRow][column].empty \neq true$  then
            return false
        end if
         $column \leftarrow column + 1$ 
    end while
end if
return checkEndField(endRow, endColumn)

```

4 Knight

```

if  $!((rowDiff == 2 \ \&\& \ columnDiff == 1) || (rowDiff == 1 \ \&\& \ columnDiff == 2))$  then
    return false
end if
return checkEndField(endRow, endColumn)

```

5 Bishop

```

if  $rowDiff \neq columnDiff$  then
    return false
end if
if  $startRow < endRow$  then
     $rowStep \leftarrow 1$ 
else
     $rowStep \leftarrow -1$ 
end if
if  $startColumn < endColumn$  then
     $columnStep \leftarrow 1$ 
else
     $columnStep \leftarrow -1$ 
end if
 $row \leftarrow startRow$ 
 $column \leftarrow startColumn$ 
while  $row \neq endRow$  do

```

```

    if  $Field[row][column].empty \neq true$  then
        return false
    end if
     $row \leftarrow row + rowStep$ 
     $column \leftarrow column + columnStep$ 
end while

```

6 Queen

```

if  $i \geq maxval$  then
     $i \leftarrow 0$ 
else
    if  $i + k \leq maxval$  then
         $i \leftarrow i + k$ 
    end if
end if

```

7 King

```

if  $rowDiff \leq 1 \ \&\& \ columnDiff \leq 1$  then
    return true
end if
return false
return checkEndField(endRow,endColumn)

```