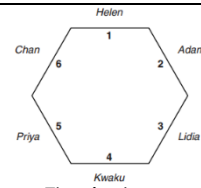


010 An algorithm a day...

Algorithm Question

Source: OCR GCSE Computing Exam June 2015

A computer game shows 6 players around a table on seats. They are numbered 1 to 6.



The names of the players are stored in an array with 6 elements called `PlayerName`. The index position of the array is used to indicate the seat number. For example, the value of `PlayerName(1)` is 'Helen'.

During the game, each player sometimes moves clockwise by a given number of places.

For example, if the number of places is 2, Helen will move to seat 3, Priya will move to seat 1 etc.

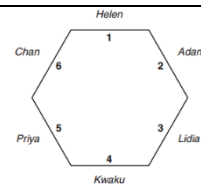
Write an algorithm in pseudocode, which updates the contents of the array 'PlayerMove' after a move has occurred. The algorithm should:

- Allow the number of places to move to be input
- Use iteration
- Ensure that all of the players' names are moved to the correct position in the array.

[6 marks]

Algorithm Example Answer

A computer game shows 6 players around a table on seats. They are numbered 1 to 6.



The names of the players are stored in an array with 6 elements called `PlayerName`. The index position of the array is used to indicate the seat number. For example, the value of `PlayerName(1)` is 'Helen'.

During the game, each player sometimes moves clockwise by a given number of places.

For example, if the number of places is 2, Helen will move to seat 3, Priya will move to seat 1 etc.

Write an algorithm in pseudocode, which updates the contents of the array 'PlayerMove' after a move has occurred. The algorithm should:

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- Use iteration
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[6 marks]

*****There are always different ways to solve a problem. This algorithm is just an example. What is important is that the logic is correct!*****

LOGIC:

- **Input the number of places to move (e.g. Num)**
- **Use of temporary variable(s) or second array to**
- **Avoid overwriting values in the array**
- **Sensible use of a loop**
- **... with correct end condition**
- **Correctly deals with moving from position 1 (e.g. $1 + \text{Num}$)**
- **Correctly deals with moving from position 6 (e.g. Num)**

EXAMPLE ALGORITHM:

```
INPUT Num
```

```
FOR loop = 1 to Num
```

```
    Temp = PlayerName(6)
```

```
    PlayerName(6) = PlayerName(5)
```

```
    PlayerName(5) = PlayerName(4)
```

```
    PlayerName(4) = PlayerName(3)
```

```
    PlayerName(3) = PlayerName(2)
```

```
    PlayerName(2) = PlayerName(1)
```

```
    PlayerName(1) = Temp
```

```
Next i
```