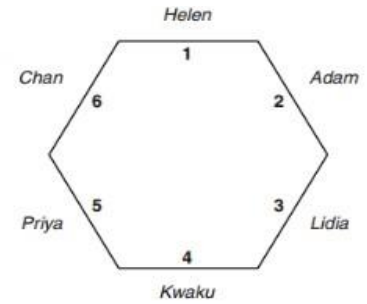


009 An algorithm a day...

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.

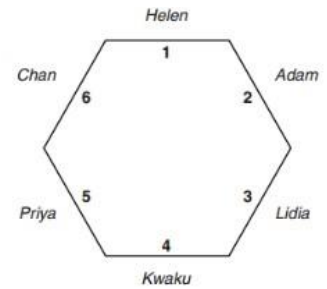
Write an algorithm, which updates the contents of the array 'PlayerMove' after a move has occurred. The algorithm should:

- 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, 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]

*****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 + Num) - Correctly deals with moving from position 6 (e.g. Num)**

EXAMPLE ALGORITHM:

```
num = int(input("Enter number: "))
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
```