ITC Infotech - Programming - Nov 2024

1. What is @resultBuilder

2. Complete the following function with the correct code at `*1*` to retrieve the first two characters of the string.

```
func firstTwoChars(_ a: String) -> String {
    let x = *1*
    return String(x)
}
```

Options

1. `a.prefix(2)`
2. `a.substr(0, 2)`
3. `a(2)`
4. `a[..<2]`
5. `a[0] + a[1]`

3. Which parameter is missing in the given code used to print the end index?

print(myString[myString.index])

1. `(before: myString.endIndex)`
2. `{before: myString.lastIndex}`
3. `(before == myString.endIndex)`
4. `(before = myString.endIndex)`

Program 1

Jack and Jill are building their teams for the upcoming quiz competition. They have an array of \(N \) players to select from.

Each player is associated with an experience level defined by array \(A \).

They use the following method to pick the players:
1. Both Jack and Jill take turns. Jack goes first.
2. At each turn, Jack or Jill can pick a person from the array and add them to their team.
3. If the person picked by Jack has an **even experience value**, it gets added to the total experience of his team. If it is **odd**, it is not added.
4. Similarly, if the person picked by Jill has an **odd experience value**, it gets added to the total experience of her team. If it is **even**, it is not added.

Finally, the team with the highest total experience value wins.
Find the winner and print `"Jack"` if Jack wins, `"Jill"` if Jill wins, and `"Tie"` if the experience value of both teams is the same.

input
[5 2 7 3]
Output
Jill

Explanation:
In this test case, Jack and Jill pick players alternately from the array \([5, 2, 7, 3] \).
Following the rules:
- Jack picks 5 (odd, not added).
- Jill picks 2 (even, not added).
- Jack picks 7 (odd, not added).
- Jill picks 3 (odd, added).

Jill has the higher experience total, so the output is `"Jill"`.

Program 2

You are organizing a community distribution camp where you plan to distribute some mangoes, apples, and oranges.
You initially have M mangoes, A apples, and O oranges.
You plan to do the distribution in the following manner:

- Each person visiting the camp must be given at least 1 unit of either mangoes, apples, or oranges.
- More than 1 unit of either mangoes, apples, or oranges cannot be given to anyone who visits the camp.
- Every person who visits the camp should be served a different combination of apples, mangoes, and oranges.

Find the maximum number of people you can serve.

Example

If the value of M = 1 , A = 2 , and O = 1 , you can give the first visitor a mango, the second visitor an apple, and the third visitor an apple and an orange.
You can serve no more than three visitors as per the given constraints.
Hence, the answer is 3.