

.NET Practical Questions

Note: All programs are to be written in C#. Create either web application (MVC, WEB API or Web Forms) or a Console app.

- 1) Given an array of integers, write a C# method to total all the values that are even numbers.
- 2) Write a program that prints numbers from 1 to 100.
But for multiples of 3 print “valar” instead of the number
For multiples of 5 print “morghulis” instead of the number
For the numbers that are multiples of both 3 and 5 print “valar morphulis”
- 3) Write a program to swap two numbers without using a temp variable in C#.
- 4) Write a program to print **N**th fibonacci number in series.
- 5) Given an instance circle of the following class:

```
public sealed class Circle
{
    private double radius;

    public double Calculate (Func<double, double> op)
    {
        return op(radius);
    }
}
```

Write code to calculate the circumference of the circle, without modifying the Circle class itself.
Hint: Use [function-valued parameters]

- 6) Write a program to Calculate power of number using tail recursion in C#
- 7) Write a program to iterate through Enum values in C#?

```
public enum Colors
{
    red,
    blue,
    green,
    yellow
}
```

- 8) Write an over loaded function in c# to calculate an area of a square or a rectangle.
- 9) If Batting Momentum = Runs Scored * Strike Rate, write a program that will return the batsman with the best batting momentum from the below object.

```
[
    {"Batsman": "Virat Kohli", "RunsScored": 50, "StrikeRate": 78.30},
    {"Batsman": "M.S.Dhoni", "RunsScored": 61, "StrikeRate": 58.90},
    {"Batsman": "Rohit Sharma", "RunsScored": 13, "StrikeRate": 124.0}
]
```

- 10) In the player list below the "IsRetired" flag has been inversely (i.e. all 0s should be 1s and all 1s should be 0s) set for all players. Write a program to update the "IsRetired" flag for all players, without using any loops.

Player List:

```
[
    {"PlayerName": "Virat Kohli", "IsRetired" : 1},
    {"PlayerName": "M.S. Dhoni", "IsRetired" : 1},
    {"PlayerName": "Hardik Pandya", "IsRetired" : 1},
    {"PlayerName": "Rohit Sharma", "IsRetired" : 1},
    {"PlayerName": "Sachin Tendulkar", "IsRetired" : 0},
    {"PlayerName": "Rahul Dravid", "IsRetired" : 0},
    {"PlayerName": "Sourav Ganguly", "IsRetired" : 0},
    {"PlayerName": "VVS Laxman", "IsRetired" : 0}
]
```

- 11) Create a C# object which returns the following JSON result when serialized.

```
{
    "Name_Full": "Sunrisers Hyderabad",
    "Name_Short": "SRH",
    "Players":
    {
        "5380": {"Position": "1", "Name_Full": "David Warner", "IsCaptain": true},
        "3722": {"Position": "2", "Name_Full": "Shikhar Dhawan", "IsCaptain": false}
    }
}
```

- 12) Write a program to display all the players in the lineups and the number of wickets they have taken, from the following 2 objects, “Lineups” and “Bowling Stats”.

Lineups:

```
[
  {"PlayerId" : 21,"PlayerName": "Y. Chahal"},
  {"PlayerId" : 22,"PlayerName": "Bhuvneshwar Kumar"},
  {"PlayerId" : 23,"PlayerName": "Jasprit Bumrah"},
  {"PlayerId" : 24,"PlayerName": "Hardik Pandya"},
  {"PlayerId" : 25,"PlayerName": "Ravindra Jadeja"},
  {"PlayerId" : 26,"PlayerName": "Mohammed Shami"}
]
```

BowlingStats:

```
[
  {"PlayerId" : 21, "Wickets": 2},
  {"PlayerId" : 22, "Wickets": 1},
  {"PlayerId" : 23, "Wickets": 3},
  {"PlayerId" : 26, "Wickets": 1}
]
```