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### Question 1

**Write a program to calculate the factorial of a given number.**

```
void main()
{
    int a = 1, fact = 6;
    if(fact == 0)
    {
        print(1);
    }
    else
    {
        for(int i = 1; i < fact; i++)
        {
            a = a*(fact);
            fact--;
        }
        print(a);
    }
}
```

### Question 2

**Write a program to make such a pattern like a pyramid with a number which will repeat the number in the same row**

1

22

333

4444

```
import "dart:io"
void main()
{
    for(int i = 0 ; i< 5; i++)
    {
        for(int j = 0; j<=i;j++)
        {
            stdout.write(i);
        }
        stdout.writeln();
    }
}
```

### Question 3

Write a program to find out sum of series.

Test Data:

The Sum of series is:

$1 + 5 + 9 + 13 + 17 + 21 + 25 + 29 + 33 + 37 = 190$ .

```
void main() {  
    num sum = 0;  
    List a = [1, 5, 9, 13, 17, 21, 25, 29, 33, 37];  
  
    for (var i = 0; i < a.length; i++) {  
        sum = sum + a[i];  
    }  
  
    print("Sum : $sum");  
}
```

### Question 4

Write a program to find out majority element of an array

The given array is: 1 3 3 7 4 3 2 3 3

```
void main(){  
var list = [1, 3, 3, 7, 4, 3, 2, 3, 3];  
    var a = Map();  
    var b = [];  
  
    list.forEach((l) {  
        if(!a.containsKey(l)) {  
            a[l] = 1;  
        } else {  
            a[l] +=1;  
        }  
    });  
    List finallist = a.values.toList()..sort();  
    a.forEach((k, v) {  
        if (v == a) {  
            b.add;  
        }  
        print("$k occurs $v time in the list");  
    });  
}
```

### Question 5

Write a program to find out minimum distance between two numbers in a given array

The given array is: 7 9 5 11 7 4 12 6 2 11

```
void main() {  
    num sum = 0, b = 0, c = 0, d = 0;  
    List a = [7, 9, 5, 11, 7, 4, 12, 6, 2, 11];  
    for (var i = 0; i < a.length-1; i++) {  
        sum = a[i];  
        b = sum - a[i+1];  
        print(b);  
    }  
}
```

### Question 6

Write a program to check whether a character is a alphabet, digit or special character.

```
void main() {  
    var a = 4;  
    if (isAlpha(a) == true) {  
        print('$a is an alphabet');  
    } else if (isNumeric(a) == true) {  
        print('$a is a number');  
    } else print ('$a is a special character');  
}
```