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1. At the end of a banquet 10 people shake hands with each other. How many handshakes will there be in total?
 - A. 100
 - B. 20
 - C. 45
 - D. 50
 - E. 90

2. The day before the day before yesterday is three days after Saturday. What day is it Today?
 - A. Monday
 - B. Tuesday
 - C. Wednesday
 - D. Thursday
 - E. Friday

3. Select the number that best completes the analogy, $10 : 6 :: 3 : ?$
 - A. 2
 - B. 1
 - C. -1
 - D. 12
 - E. 4

4. Which number should come next in the series, 1, 3, 6, 10, 15, ?
 - A. 8
 - B. 11
 - C. 24
 - D. 21
 - E. 27

5. 165135 is to peace as 1215225 is to
 - A. lead
 - B. love
 - C. loop
 - D. castle

6. Library is to book as book is to
 - A. page
 - B. copy
 - C. binding
 - D. cover

7. Translate this whole paragraph into Bahasa Indonesia
A programming language is a computer language programmers use to develop applications, scripts, or other set of instructions for a computer to execute. Below is a

listing of several different programming languages and scripting languages currently listed in our database

Bahasa pemrograman adalah bahasa komputer yang digunakan programmer untuk mengembangkan aplikasi, skrip, atau serangkaian instruksi lain untuk dieksekusi oleh komputer. Di bawah ini adalah daftar beberapa bahasa pemrograman dan bahasa skrip yang saat ini terdaftar di database kami

8. Solve this problem: The man in the Elevator

A man who lives on the tenth floor takes the elevator down to the first floor every morning and goes to work. In the evening, when he comes back; on a rainy day, or if there are other people in the elevator, he goes to his floor directly. Otherwise, he goes to the seventh floor and walks up three flights of stairs to his apartment. He hates walking.

Can you explain why?

The man is of short stature. He can't reach the upper elevator buttons, but he can ask people to push them for him. He can also push them with his umbrella.

9. Create program (can use any programming language)

A. Write the number from 1 to 1000 on the screen like the following :

1 2 3 4 5 * 6 7 8 9 10 * 11 12 13 14 15 * 16 17 18 19 20 *...

```
let result = [];  
let separator = 5;  
  
for (let i = 0; i < 1000; i++) {  
  if (i === separator) {  
    separator = separator + 5;  
    result.push("*");  
  }  
  result.push(i + 1);  
}  
  
console.log("result", result.join(" "));
```

B. Write the number from 1 to 1000 on the screen like the following :

1 2 3 4 5 # 6 7 8 # 9 10 11 12 13 # 14 15 16 # 17 18 19 20 21 # 22 23...

```
let result = [];  
let switcher = "A";  
let separator = 5;  
  
for (let i = 0; i < 1000; i++) {  
  if (i === separator) {  
    separator = switcher === "A" ? separator + 3 : separator + 5;  
    result.push("#");  
    switcher = switcher === "A" ? "B" : "A";  
  }  
  result.push(i + 1);  
}  
  
console.log("result", result.join(" "));
```

Kode	Harga	Keterangan
1	1000	a
1	2000	b
2	1100	c
2	1300	d
2	1200	e
3	1500	f
3	1100	g
3	1900	h
4	1900	i
4	1800	j
5	1100	k
5	1200	l
5	1150	m
5	1000	n

10. Dari data table t1 di atas, carilah harga yang paling tinggi untuk tiap Kode ! (dengan menggunakan SQL query)

**SELECT Kode, MAX(Harga), MAX(Keterangan) FROM table GROUP BY Kode
ORDER BY Kode**

Hasil yang diharapkan sebagai berikut :

Kode	Harga	Keterangan
1	2000	b
2	1300	d
3	1900	h
4	1900	i
5	1200	l

11. Perhatikan coding Java di bawah ini

```
package test.p1;
public class ParentUtil {
    public int x = 420;
    protected int doStuff() {
        return x;
    }
}

package test.p2;
import test.p1.ParentUtil;
public class ChildUtil {
    public static void main(String[] args) {
        new ChildUtil().callStuff();
    }
    void callStuff() {
        System.out.println("this "+ this.doStuff() );
        ParentUtil p = new ParentUtil();
        System.out.println(" parent " + p.doStuff());
    }
}
```

- Apakah
- a. Coding di atas bisa di compile? **Bisa**
 - b. Jika bisa di compile apakah bisa di jalankan? **Tidak**
 - c. Jika bisa di jalankan apakah hasilnya? **Error**

Sebutkan masing masing alasannya ut tiap pertanyaan di atas.

Coding bisa compile karena tidak terdapat kesalahan syntax, tapi tidak bisa dijalankan karena memanggil protected class parentnya

12. Perhatikan coding Java di bawah ini

```
import java.io.*;
public class MyProgram {
    public static void main(String[] args) {
        FileOutputStream out = null;
        try {
            out = new FileOutputStream("test.txt");
            out.write();
        } catch (IOException io) {
            System.out.println("IO Error");
        } finally {
            out.close();
        }
    }
}
```

Jika semua method yang di pakai dari class FileOutputStream selalu melemparkan sebuah IOException, apakah contoh coding di atas dapat di compile dan di jalankan? Jika tidak sebutkan alasannya?

Bisa dan berjalan normal dengan membuat file baru yg bernama test.txt

13. Perhatikan contoh coding Java di bawah ini

```
public class Barbell{
    public int getWeight() {
        return weight;
    }
    public void setWeight(int w) {
        weight = w;
    }
    public int weight;
}
```

Apakah coding di atas benar menurut teori encapsulation Java? Sebutkan alasan anda

Iya benar, getter dan setter adalah satu metode dari encapsulation

14. Perhatikan contoh coding Java di bawah ini

```
public class If {
    static boolean b1,b2;
    public static void main(String[] args) {
        int x = 0;
        if (!b1) {
            if(!b2) {
                b1 = true;
                x++;
                if (5>6) {
                    x++;
                }
                if( !b1) x= x +10;
                else if (b2 = true) x = x+100;
                else if (b1 | b2) x = x + 1000;
            }
        }
        System.out.println(x);
    }
}
```

Apakah hasil dari x? 1001