2024년 상반기 K-디지털 트레이닝

Builder – 복잡한 인스턴스를 조립한다

[KB] IT's Your Life

☑ **Builder 패턴**

- ○ **클래스의 생성자 매개변수가 많은 경우**
  - ▪ public Memo(Long id, String title, String content, String writer, Date date) { ... }

  - ▪ 생성시 모든 인자를 준비하기 힘들 수 있고, 순서도 맞추기 힘들어짐

    new Memo(10L, "제목", "메모 내용", "홍길동", new Date())

- ○ **조립식으로 내용을 구성할 필요가 있음**

```
Memo memo = new Memo.Builder()
        .title("제목")
        .id(10L)
        .writer("홍길동")
        .content("메모 내용")
        // .date(new Date())
        .build();
```

Builder 패턴

✎ Memo.java

```java
public class Memo {
    private Long id;
    private String title;
    private String content;
    private String writer;
    private Date date;

    public Memo() {}

    // Getter, Setter, toString()

}
```

Memo.java

```java
public class Memo {
    …
    public static class Builder {
        private Long id;
        private String title;
        private String content;
        private String writer;
        private Date date;

        public Builder() {
        }

        public Builder id(Long id) {
            this.id = id;
            return this;
        }
    }
```

Memo.java

```java
public Builder title(String title) {
    this.title = title;
    return this;
}

public Builder content(String content) {
    this.content = content;
    return this;
}

public Builder writer(String writer) {
    this.writer = writer;
    return this;
}

public Builder date(Date date) {
    this.date = date;
    return this;
}
```

✍ Memo.java

```java
        public Memo build() {
            return new Memo(this);
        }
    } // end of Builder

    private Memo(Builder builder) {
        id = builder.id;
        title = builder.title;
        content = builder.content;
        writer = builder.writer;
        date = builder.date;
    }


} // end of Memo
```

Memo.java

```java
    // 또는
        public Memo build() {
            return new Memo(id, title, content, writer, date);
        }
    }  // end of Builder


    public Memo(Long id, String title, String content, String writer, Date date) {
        this.id = id;
        this.title = title;
        this.content = content;
        this.writer = writer;
        this.date = date;
    }


} // end of Memo
```

✍ MemoBuilderTest.java

```java
public class MemoBuilderTest {
    public static void main(String[] args) {
        Memo memo = new Memo.Builder()
                .id(10L)
                .title("제목")
                .content("메모 내용")
                .writer("홍길동")
//                .date(new Date())
                .build();


        System.out.println(memo);
    }
}
```