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Q1/ * Advantges:

1. Clealry indicates where a block ends, especially in nested code.
2. Helps with code organization and readability
3. Familiar to programmers coming from C-link languages.

* Disadvantges:

1. easy to forget or misplace, with can lead to syntax errors
2. adds visual clutter, espicially in poorly formatted code.

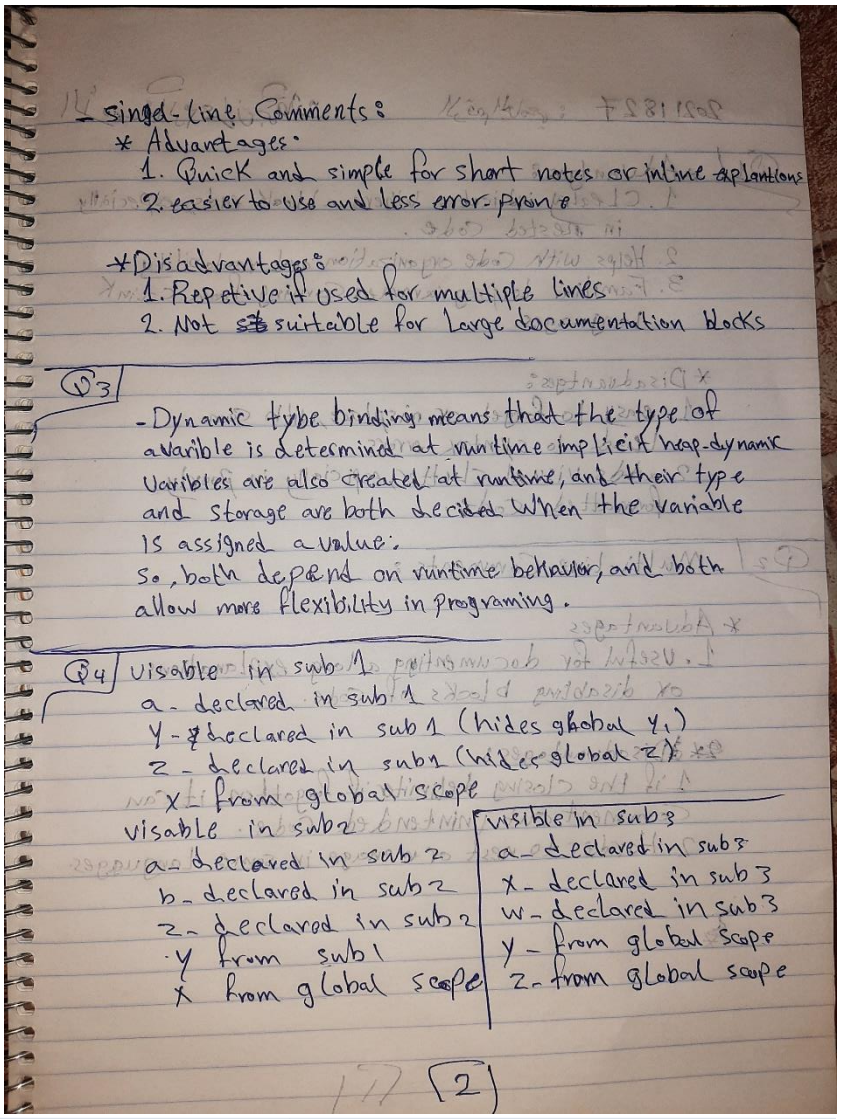
Q2/ Multi-line Comments:

* Advantages

1. Useful for documenting a long explanations or disabling blocks of code.

* Disadvantages:

1 if the closing delimiter if forgotten, it can comment out unintended code.
2. Harder to nest or manage in some Languages.



main.c

```c
#include <stdio.h>

void fun(void) {
    int a = 10, b = 20, c = 30;
    printf("→ 4: a=%d (1), b=%d (1), c=%d (1)\n", a, b, c);

    while (1) {
        int b = 200, c = 300, d = 400;
        printf("→ 1: a=%d (1), b=%d (2), c=%d (2), d=%d (2)\n", a, b, c, d);

        while (1) {
            int c = 3000, d = 4000, e = 5000;
            printf("→ 2: a=%d (1), b=%d (2), c=%d (3), d=%d (3), e=%d (3)\n", a, b, c, d, e);
            break;
        }

        printf("→ 3: a=%d (1), b=%d (2), c=%d (2), d=%d (2)\n", a, b, c, d);
        break;
    }
}

int main() {
    fun();
    return 0;
}
```

Output

```
→ 4: a=10 (1), b=20 (1), c=30 (1)
→ 1: a=10 (1), b=200 (2), c=300 (2), d=400 (2)
→ 2: a=10 (1), b=200 (2), c=3000 (3), d=4000 (3), e=5000 (3)
→ 3: a=10 (1), b=200 (2), c=300 (2), d=400 (2)


=== Code Execution Successful ===
```


```
var x, y, z;

function sub1() {
  var a, y, z;
  function sub2() {
    var a, b, z;
    console.log("sub2:");
    console.log("a:", a);
    console.log("b:", b);
    console.log("z:", z);
    console.log("y:", y);
    console.log("x:", x);
  }
  sub2();
  console.log("sub1:");
  console.log("a:", a);
  console.log("y:", y);
  console.log("z:", z);
  console.log("x:", x);
}

function sub3() {
  var a, x, w;
  console.log("sub3:");
  console.log("a:", a);
  console.log("x:", x);
  console.log("w:", w);
}

x = 1;
sub1();
sub3();
```

main.cpp

Share Run

```c
#include <stdio.h>
void fun3(int a, int b, int c, int d, int e, int f) {
    printf("fun3: a=%d (main), b=%d, c=%d, d=%d, e=%d, f=%d\n", a, b, c, d, e, f);
}
void fun2(int a, int b, int c, int d, int e) {
    int f = 60;
    fun3(a, b, c, d, e, f);
}

void fun1(int a, int b, int c) {
    int d = 40;
    int e = 50;
    fun2(a, b, c, d, e);

    int f = 60;
    fun3(a, b, c, d, 0, f);
}

int main() {
    int a = 10, b = 20, c = 30;

    printf("----- Case A: main → fun1 → fun2 → fun3 -----\n");
    fun1(a, b, c);

    printf("\n----- Case B: main → fun1 → fun3 -----\n");
    int d = 40, f = 60;
    fun3(a, b, c, d, 0, f);

    printf("\n----- Case C: main → fun2 → fun3 → fun1 -----\n");
    int e = 50;
    fun1(a, b, c);
    return 0;
}
```

Output

Clear

```
----- Case A: main → fun1 → fun2 → fun3 -----
fun3: a=10 (main), b=20, c=30, d=40, e=50, f=60
fun3: a=10 (main), b=20, c=30, d=40, e=0, f=60

----- Case B: main → fun1 → fun3 -----
fun3: a=10 (main), b=20, c=30, d=40, e=0, f=60

----- Case C: main → fun2 → fun3 → fun1 -----
fun3: a=10 (main), b=20, c=30, d=40, e=50, f=60
fun3: a=10 (main), b=20, c=30, d=40, e=0, f=60


=== Code Execution Successful ===
```

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