

# L#13 Review Questions and Solutions

# Review Questions (I)

- Which of the C loops is a **pretest** loop?

- a) *do ... while*
- b) Both *do...while* and *for*
- c) Both *for* and *while*
- d) *for*
- e) *while*

```
for(counter=1; counter <= 6; counter++)  
    printf("hello %d\n", counter);
```

```
for(counter=6; counter >= 1; counter--)  
    printf("hello %d\n", counter);
```

- **True or false:**

- a) \_\_\_ The three loop expressions used in for loops must be separated by commas
- b) \_\_\_ In a *for* loop expression, the starting counter value must be smaller than the ending counter value

# Review Questions (II)

- Assume *int b=1*; correct error(s), if any, in the following loop statements. Specify the number of iterations before the loop ends.
  - a) `while (7) printf("hello\n");`
  - b) `while (b<7): {printf("%d\n", b); b++;}`
  - c) `while (b=3) {printf("hello\n"); b++;}`
  - d) `while (b==3) {printf("hello\n"); b++;}`
  - e) `do (printf("hello\n"); b++) while (b<1)`
  - f) `Do {printf("hello\n"); b++;} while (b<1):`
  - g) `for (b=1; ;b++) printf("good morning\n");`
  - h) `for (b=7, b>3,b++) printf("good morning\n");`

# Review Questions (III)

- What's the output of this program?

```
#include <stdio.h>
void main(void)
{
    int a;
    int b;
    for(a =1; a <= 3; a++)
        {
            for (b=1; b<=a; b++)
                printf("%d", a);
            printf("\n");
        }
}
```

# Solution to Review Q (I)

- Which of the C loops is a **pretest** loop? c

- a) *do ... while*
- b) Both *do...while* and *for*
- c) Both *for* and *while*
- d) *for*
- e) *while*

```
for(counter=1; counter <= 6; counter++)  
    printf("hello %d\n", counter);
```

```
for(counter=6; counter >=1; counter--)  
    printf("hello %d\n", counter);
```

- **True or false:**

- a) F The three loop expressions used in for loops must be separated by commas
- b) F In a *for* loop expression, the starting counter value must be smaller than the ending counter value

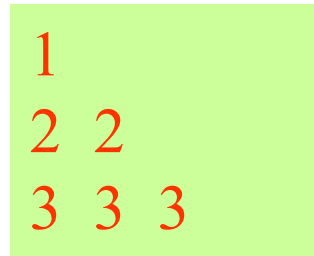
# Solution to Review Q (II)

- Assume `int b=1;` correct error(s), if any, in the following loop statements. Specify the number of iterations before the loop ends.
  - a. `while (7) printf("hello\n");` (*no error, but an infinite loop*)
  - b. `while (b<7): {printf("%d\n", b); b++;}` (*no colon:, 6 times*)
  - c. `while (b=3) {printf("hello\n"); b++;}` (*no error, but an infinite loop*)
  - d. `while (b==3) {printf("hello\n"); b++;}` (*no semicolon; after }, add ; after b++, 0 times*)
  - e. `do (printf("hello\n"); b++) while (b<1)` (*change () to {} before while and add ; after b++ and at the end of the statement, once*)
  - f. `Do {printf("hello\n"); b++;} while (b<1):` (*change Do to do, : to ; at the end, add ; after b++, once*)
  - g. `for (b=1; ;b++) printf("good morning\n");` (*no error, but an infinite loop*)
  - h. `for (b=7, b>3,b++) printf("good morning\n");` (*change , to ; an infinite loop*)

# Review Questions (III)

- What's the output of this program?

```
#include <stdio.h>
void main(void)
{
    int a;
    int b;
    for(a =1; a <= 3; a++)
        {
            for (b=1; b<=a; b++)
                printf("%d", a);
            printf("\n");
        }
}
```



```
1
2 2
3 3 3
```