

MTH 307: Programming and Data Structures

Homework II

(Due 23/02)

1. What is the output produced by each of the following program fragments. Assume that `i`, `j`, and `k` are `int` variables.

- (a) `i = 1; j = 2; k = 3;`
`printf("%d", (i+5)%(j+2)/k);`
- (b) `i = 7; j = 8; k = 9;`
`printf("%d", (i+10)%k/j);`
- (c) `i = 1; j = 2; k = 3;`
`i -= j -= k;`
`printf("%d %d %d", i, j, k);`
- (d) `i = 2; j = 1; k = 0;`
`i *= j *= k;`
`printf("%d %d %d", i, j, k);`
- (e) `i = 7;`
`j = 6 + (i=2.5);`
`printf("%d %d", i, j);`
- (f) `i = 2; j = 8;`
`j = (i=6) + (j=3);`
`printf("%d %d", i, j);`
- (g) `i = 3; j = 4; k = 5;`
`printf("%d", i++ - j++ + --k);`
`printf("%d %d %d", i, j, k);`
- (h) `i = 7; j = 8;`
`printf("%d", i++ - --j);`
`printf("%d %d", i, j);`
- (i) `i = 7;`
`j = 3 * i-- + 2;`
`printf("%d %d", i, j);`
- (j) `i = 7;`
`j = 3 + --i * 2;`
`printf("%d %d", i, j);`

2. Write a C program for each of the following tasks.

- (a) Accepting a three digit integer from the user and printing the number with the digits reversed.
- (b) Accepting an integer from the user and then displaying it in binary, octadecimal, or hexadecimal format, depending on the choice of the user.
- (c) Accepting 2 dates from the user in the (dd/mm/yyyy) format and then indicating which date comes earlier, and calculating the number of days separating the dates.