

# CSC 111 Fall 2013 Midterm 1

83  
90

- This is a closed books, closed notes, no gadgets, and no electronic devices midterm.
- Turn in your completed midterm at the front of the class and show your UVic ID.
- Leave through the front door.

1. How many formal parameters are there in this function header `int f(int s, float x)`

- ☐ 0
- ☐ 1
- ☒ 2
- ☐ more than 2

6

2. Consider the following syntactically correct C program.

```
#include <stdio.h>
#include <stdlib.h>
int main(void) {
    printf("CSC 111\n");
    return EXIT_SUCCESS;
}
```

How many function names appear in this program? Check the correct circle.

- ☐ 0
- ☐ 1
- ☒ 2
- ☐ more than 2

6

12



3. For the following statements, check the correct circle.

The C preprocessor

☐

compiles C programs

☐

builds an application or an executable

☐

checks for semantic errors

☒

includes text files using #include and substitutes text using #define directives

4. What are the values of the following C expressions?

Assume the following C declarations and initializations:

```
int x = 3;
```

```
int a = 1;
```

$(x != 3)$   $x \neq 3$

No Value

$(0 > x \ || \ x > 9)$   
OR

No Value

$(a += 2 * (a - 19))$

$a = a + -36 \ (-18)$

$a = -35$

$((x * 17) \% 2)$

$51 =$

1

$a = a + -36$

5. Given the following two declarations and initializations, how do you store the value 17 into the integer variable x using pointer p? Check the correct circle.

```
int x = 3;
```

```
int* p = &x;
```

☐

$p* = 17;$

☐

$x = 17;$

☒

$*p = 17;$

☐

$*p* = 17;$



6. How many proper identifiers are in each line according to C syntax? Enter the number for each line in the circle at the front of the line.

6

ABC aBc \_systematic B777 k 711 int mega %d

4

These ~~are~~ identifiers with a ~~prefix~~

5

17.4 nine 13.6 forty-four hexadecimal k ~~numeric~~ output

7

Check for C ~~code~~ comments keywords such as for while long

7. What is the output of the following syntactically correct C program?

```
#include <stdio.h>
#include <stdlib.h>
int main(void) {
    int k = 21;
    while (k < 35) {
        if (k % 2 == 0)
            printf("%d\n ", k);
        k = k + 3;
    } /*while*/
    printf("Common sense!\n");
    return EXIT_SUCCESS;
} /* main */
```

21 24 27 30 33

Output:

24

30

Common sense!

8. Given the following C declarations and initializations, create four pointer variables to point to these four variables.

int k = 17;

int \* kPtr = &k

char c = 'A';

char \* cPtr = &c

float f = 3.14;

float \* fPtr = &f

double d = 2.81;

double \* dPtr = &d



9. What is the output of the following syntactically correct C program?

10

```
#include <stdio.h>
#include <stdlib.h>
int main(void) {
    int k = 77;
    while (k > 47) {
        printf("%d ", k);
        k = k - 10;
    } /*while*/
    printf("Finished\n");
    return EXIT_SUCCESS;
} /* main */
```

Output:

77 67 57 Finished

10. What is the output of the following syntactically correct C program?

77 67 57 47

```
#include <stdio.h>
#include <stdlib.h>
/* function prototypes */
int main(void);
void f1(void);
void f2(void);
void f3(void);
void f4(void);

void f1() { printf("f1 "); f2(); }
void f2() { printf("f2 "); f4(); }
void f3() { printf("f3 "); f4(); }
void f4() { printf("f4 "); }

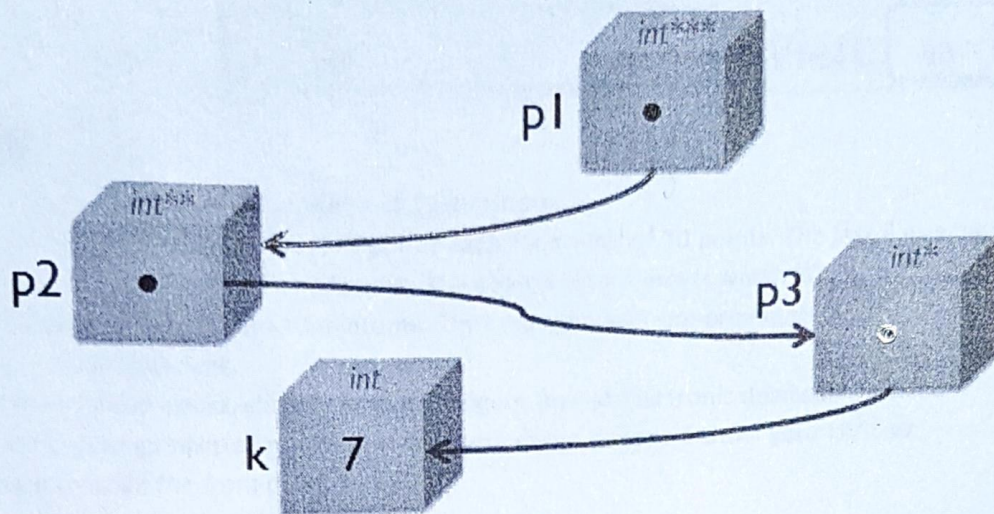
→int main(void) {
    printf("main ");
    f1();
    f3();
    printf("Bye\n");
    return EXIT_SUCCESS;
}
```

Output:

main f1 f2 f4 f3 f4 Bye



11. In the box below, realize the following memory configuration exactly using C variable declarations and pointer assignments. Then store 17, 18, and 19 into variable k using pointers p1, p2, and p3, respectively.



~~int k = 7;~~  
~~int \*p3 = &k;~~  
~~int \*\*p2 = &p3;~~  
~~int \*\*\*p1 = &p2;~~  
  
~~\*\*\*p1 = 17;~~ p2  
~~\*\*p2 = 18;~~  
~~\*p3 = 19;~~