Started on	Friday, 30 October 2020, 1:05 PM
State	Finished
Completed on	Friday, 30 October 2020, 1:15 PM
Time taken	10 mins 1 sec
Marks	13.00/15.00
Grade	**86.67** out of 100.00

Question 1

Incorrect

Mark 0.00 out of 1.00

What is `*(a + 8)` equivalent to?

Select one:

- ○ `a[8]`   **cross out**
- ○ `a[0] + 8`   **cross out**
- ○ `&a[8]`   **cross out**
- ○ It depends on how many bytes an int occupies on the machine.   **cross out**
- ◉ None of the above. ✖   **cross out**

Your answer is incorrect.

Click "Next page" to continue

The correct answer is: `a[8]`

Question 2

Correct

Mark 1.00 out of 1.00

What is the output of the following program?

```
int f(int n) {
  static int i;
  i += n;
  return i;
}

int main() {
  int i = 3;
  i += f(i);
  i += f(i);
  printf("%d\n", i);
  return 0;
}
```

Select one:

- ○ 3   **cross out**
- ○ 6   **cross out**
- ○ 9   **cross out**
- ○ 12   **cross out**
- ◉ 15 ✔   **cross out**
- ○ 18   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: 15

Question 3

Correct

Mark 1.00 out of 1.00

What are/is the advantage(s) of external (global) variables?

Select all that apply:

☐   Global variables make it easier to debug code   **cross out**

☑   Reusing a variable among many functions ✔   **cross out**

☐   Functions that use global variables are easy to reuse in other programs   **cross out**

☑   Few functions reusing many common variables ✔   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answers are: Reusing a variable among many functions, Few functions reusing many common variables

Question 4

Correct

Mark 1.00 out of 1.00

Assuming it compiles successfully, what is the output of the following program?

```
int x = 9999;

void f(int x) {
  x = 1000;
}

void g() {
  x = 500;
}

void h(int z) {
  z = 1000;
}

int main() {
  f(x);
  x = 1;
  g();
  h(x);
  printf("%d", ++x);
  return 0;
}
```

Select one:

○   1001   **cross out**

○   2   **cross out**

○   10000   **cross out**

◉   501 ✔   **cross out**

○   500   **cross out**

○   1000   **cross out**

○   9999   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: 501

Question 3

Correct

Mark 1.00 out of 1.00

Question 5

Correct

Mark 1.00 out of 1.00

Will the following function definition compile successfully?

```
void foo(int a, int b) {
  a + b;
  return;
}
```

Select one:

- ○ True ✔
- ○ False

cross out

cross out

Your answer is correct.

Click "Next page" to continue

The correct answer is: True

Question 6

Correct

Mark 1.00 out of 1.00

Is the following function definition correct?

```
void returnsInteger(int a) {
  int b = a + 10;
  if (b > 20) {
    return b;
  }
  else {
    return a;
  }
}
```

Select one:

- ○ True
- ○ False ✔

cross out

cross out

Your answer is correct.

Click "Next page" to continue

The correct answer is: False

Question 7

Correct

Mark 1.00 out of 1.00

What is wrong with the following code?

```
unsigned long i = 1000;
int *p = i;
```

Select one:

- ○ Pointer and variable types are incompatible ✔
- ○ Everything is correct
- ○ Code will not compile
- ○ Variable i is not declared

cross out

cross out

cross out

cross out

Your answer is correct.

Click "Next page" to continue

The correct answer is: Pointer and variable types are incompatible

---

Question 5

Will the following function definition compile successfully?

```
void foo(int a, int b) {
```

Question 8

Correct

Mark 1.00 out of 1.00

Suppose we have the following declarations:

```
int a;
int *p = &a;
```

Which of the following are valid ways to read an `int` from `stdin` into `a`?

Select all that apply:

- ☑ `scanf("%d", &a);` ✔   **cross out**
- ☐ `scanf("%d", a);`   **cross out**
- ☐ `scanf("%d", *a);`   **cross out**
- ☐ `scanf("%d", &p);`   **cross out**
- ☑ `scanf("%d", p);` ✔   **cross out**
- ☐ `scanf("%d", *p);`   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answers are: `scanf("%d", &a);`, `scanf("%d", p);`

Question 9

Correct

Mark 1.00 out of 1.00

Suppose we have the following declarations:

```
int a, *p;
```

How can we make `p` point to `a`?

Select one:

- ◉ `p = &a;` ✔   **cross out**
- ○ `*p = &a;`   **cross out**
- ○ `&p = *a;`   **cross out**
- ○ `p = *a;` `   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: `p = &a;`

Question 10

Correct

Mark 1.00 out of 1.00

Suppose we have the following declarations:

```
int a = 1, b = 2;
int *p = &a, *q = &b;
```

How can we use the pointers to copy the value of `b` into `a`?

Select one:

- ○ `&p = &q;`   **cross out**
- ○ `*p = &q;`   **cross out**
- ◉ `*p = *q;` ✔   **cross out**
- ○ `&p = *q;`   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: `*p = *q;`

Question 11

Correct

Mark 1.00 out of 1.00

Which of the following function prototypes return a pointer to an `int`?

Select one:

○ `int f(int *a);`   **cross out**

○ `int &f(int a);`   **cross out**

◉ `int *f(int *a);` ✔   **cross out**

○ Pointers are invalid return types for functions.   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: `int *f(int *a);`

Question 12

Correct

Mark 1.00 out of 1.00

Suppose we have declared an array of `int` using `int a[10] = {0}`, and another array using `int b[5] = {0}`. What will the expression `&a[3] - &b[1]` return?

Select one:

○ `2 * sizeof(int)`   **cross out**

○ `2`   **cross out**

○ `0`   **cross out**

◉ The expression will result in undefined behaviour. ✔   **cross out**

○ The expression will cause an error.   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: The expression will result in undefined behaviour.

Question 13

Correct

Mark 1.00 out of 1.00

Suppose we create a 2D array of `int` using the following declaration:

`int a[30][5];`

What element does `*(a + 5)[3]` point to?

Select one:

○ `a[5][3]`   **cross out**

○ `a[3][5]`   **cross out**

○ It points to the entire row of a[8].   **cross out**

◉ It doesn't point to any element in `a` ✔   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: It doesn't point to any element in `a`

Question 14

Correct

Mark 1.00 out of 1.00

Suppose we create a 2D array of `int` using the following declaration:

`int a[30][5];`

What element does `(*(a + 5))[3]` point to?

Select one:

- ○ `a[5][3]` ✖   **cross out**
- ○ `a[3][5]`   **cross out**
- ○ It points to the entire row of a[8].   **cross out**
- ○ It doesn't point to any element in `a`   **cross out**

Your answer is correct.

Click "Next page" to continue

The correct answer is: It doesn't point to any element in `a`

Question 15

Incorrect

Mark 0.00 out of 1.00

Suppose we have the following declarations:

`int a[10] = {0};`
`int *p = a;`

What will the expression `*++p = 10;` do?

Select one:

- ○ It will set `a[0]` to 10, and move `p` to point to `a[1]`   **cross out**
- ○ It will set `a[1]` to 10 and move `p` to point to `a[1]`   **cross out**
- ○ It will increment the value at `a[0]` and then set it to 10.   **cross out**
- ◉ The expression will result in an error. ✖   **cross out**

Your answer is incorrect.

Click "Next page" to continue

The correct answer is: It will set `a[1]` to 10 and move `p` to point to `a[1]`

◄ Practice Quiz #7 (up to Lecture 18/Chap 12)

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