

# 객체지향프로그래밍 - 과제2

## 2019110634 컴퓨터공학과 이창렬

1. Will the following lines of code print the same thing? Explain why or why not.

```
std::cout << 6 << '\n';  
std::cout << "6" << '\n';
```

답 : 둘의 결과값은 같습니다. 위 6은 문자가 없어서 변수처리되지 않고, 아래 6은 문자열이라 괄호 안 내용이 그대로 출력되기 때문입니다.

2. Will the following lines of code print the same thing? Explain why or why not.

```
std::cout << x << '\n';  
std::cout << "x" << '\n';
```

답 : 윗줄의 x는 변수로 x에 저장된 값을 출력하고 아랫줄의 x는 string으로 x라는 문자열을 출력합니다.

7. What C++ data type represents nonnegative integers?

답 : unsigned가 들어간

- unsigned short int
- unsigned int
- unsigned long int
- unsigned long long int

입니다.

8. What happens if you attempt to use a variable within a program, and that variable is not declared?

답 : 기존에 남아있던 값, 즉 trash value가 나옵니다.

9. What is wrong with the following statement that attempts to assign the value ten to variable x?

```
10 = x;
```

답 : l-value에는 문자가 포함되어있는 변수명이 나와야 합니다.

10. Once a variable has been properly declared and initialized can its value be changed?

답 : 변수는 항상 바뀔 수 있습니다.

11. What is another way to write the following declaration and initialization?

```
int x = 10;
```

답 :

```
int x;  
x = 10;
```

12. In C++ can you declare more than variable in the same declaration statement? If so, how?

답 : 가능합니다.

```
int x, y, z=1;
```

처럼 열거하면 됩니다.

13. In the declaration

```
int a;  
int b;
```

do a and b represent the same memory location?

답 : 아니오. 각 변수는 다른 메모리에 할당됩니다.

14. Classify each of the following as either a legal or illegal C++ identifier:

- (a) fred - 가능
- (b) if : 불가능(reserved word)
- (c) 2x : 불가능(first character must be an alphabetic letter or underscore)
- (d) -4 : 불가능(first character must be an alphabetic letter or underscore)
- (e) sum\_total : 가능
- (f) sumTotal : 가능
- (g) sum-total : 가능
- (h) sum total : 불가능(spacebar)
- (i) sumtotal : 가능
- (j) While : 가능
- (k) x2 : 가능
- (l) Private : 가능
- (m) public : 불가능(reserved word)
- (n) \$16 : 불가능(first character must be an alphabetic letter or underscore)
- (o) xTwo : 가능
- (p) \_static : 가능
- (q) \_4 : 가능
- (r) \_\_ : 가능
- (s) 10% : 불가능(No other characters are permitted in identifiers.)
- (t) a27834 : 가능
- (u) wilma's : 불가능(No other characters are permitted in identifiers.)

15. What can you do if a variable name you would like to use is the same as a reserved word?

답 : reserved word는 사용할 수 없습니다.

16. Why does C++ require programmers to declare a variable before using it?  
What are the advantages of declaring variables?

답 : 변수 미리 지정해두면 전역변수로 사용하여 메모리를 절약할 수 있습니다.

17. What is the difference between float and double?

답 : float는 4byte며 precision이 6 digits이지만 double은 8byte이며 15 digits입니다.

18. How can a programmer force a floating-point literal to be a float instead of a double?

답 : 숫자 뒤에 f를 쓰면 됩니다.

19. How is the value  $2.45 \times 10^{-5}$  expressed as a C++ literal?

답 : 2.45e-5로 표현할 수 있습니다.

20. How can you ensure that a variable's value can never be changed after its initialization?

답 : constant를 쓰면 됩니다.

21. How can you extend the range of int on some systems?

답 : long을 쓰면 됩니다.

22. How can you extend the range and precision of double on some systems?

답 : range를 늘리고 싶으면 부동소수점을 쓰고 precision을 늘리고 싶으면 고정소수점을 쓰면 됩니다

24. Is "i" a string literal or character literal?

답 : string

25. Is 'i' a string literal or character literal?

답 : character

26. Is it legal to assign a char value to an int variable?

답 : 불가능합니다.

27. Is it legal to assign an int value to a char variable?

답 : 가능합니다.

28. What is printed by the following code fragment?

```
int x;  
x = 'A';  
std::cout << x << '\n';
```

답 : 65

29. What is the difference between the character 'n' and the character '\n'?

답 : 'n'은 그냥 문자형이고 '\n'은 한줄띄기라는 역할을 합니다.

30. Write a C++ program that simply emits a beep sound when run.

답 :

```
cout << '/a';
```

31. Create an unscoped enumeration type that represents the days of the week.

```
enum Week {Mon, Tue, Wed, Thu, Fri, Sat, Sun};
```

32. Create a scoped enumeration type that represents the days of the week.

```
enum class Week {Mon, Tue, Wed, Thu, Fri, Sat, Sun};
```

33. Create an unscoped enumeration type that represents the months of the year.

```
enum Month {Jan, Feb, Mar};
```

34. Create a scoped enumeration type that represents the months of the year.

```
enum class Month {Jan, Feb, Mar};
```

35. Determine the exact type of each of the following variables:

- (a) auto a = 5; - int
- (b) auto b = false; - boolean
- (c) auto c = 9.3; - double
- (d) auto d = 5.1f; - float
- (e) auto e = 5L; - long