

UNIVERSITY OF WINDSOR
60-106-01 Fall 2007
QUIZ # 1 Solution

Examiner:Ritu Chaturvedi

Dated :October 2nd, 2007.

Student Name:_____

Student Number:_____

INSTRUCTIONS (Please Read Carefully)

No calculators allowed.

Examination Period is : 1 hour

Answer all questions in the bubble sheet provided to you. You must use a pencil to mark the answer. There are 10 True/False questions and 25 multiple choice questions. Select only one answer for each question. Write your name and student number on the examination paper as well as the bubble sheet and submit both the bubble sheet and the examination paper before you leave the exam hall.

Total Marks : 70

Total number of pages : 11

There may be more than one possible answer. Choose the best possible answer. Good Luck!!!

SECTION I (TRUE OR FALSE) : 10 X 2 = 20 marks .

You may use choice of a for TRUE and choice of b for False:

1. All information that is to be processed by a computer must first be entered into memory via an input device. **TRUE**
2. A list of instructions provided to the computer is called a program. **TRUE**
3. Statements in a high-level language are converted to statements in machine language by a loader. **FALSE**
4. After the last statement of a function executes, control is transferred to the next defined function. **FALSE**
5. A syntax error in a program is an error that causes the program to produce incorrect output. **FALSE**
6. This assignment statement stores the sum of b and c in a: $b + c = a;$ **FALSE**
7. A type char literal is enclosed in single quotes. **TRUE**
8. If the computer is switched off, data in secondary storage is usually not lost. **TRUE**
9. Functions are permitted to have only one input argument. **FALSE**
10. Because the following statement is a valid call to function wow, wow must be a void function. **FALSE**
$$\text{num} = \text{wow}(\text{x}, \text{y});$$

SECTION II : (Multiple Choice) : 25 X 2 = 50 marks

1. The object file(a.out) is created by the _____.
 - a. editor
 - b. loader
 - c. central processing unit
 - d. **compiler**
 - e. None of the above

2. A _____ is a set of values and a set of operations on those values.
 - a. file
 - b. **data type**
 - c. precedence rule
 - d. library
 - e. None of the above

3. Which of the types listed below can be the type of the result value returned by a user-defined function?
 - a. int
 - b. double
 - c. char
 - d. **all of the above**
 - e. none of the above

4. Which of the following is **not** an advantage of a high-level language?
 - a. It is easier to use than machine language.
 - b. Its statements resemble English.
 - c. **It is easy for the machine to understand.**
 - d. All of the above
 - e. None of the above

5. If num is a variable of type int and temp is a variable of type float, how could you correctly complete the scanf statement given below?
scanf("%f%d", _____);
 - a. num, temp
 - b. &num, &temp
 - c. temp, num
 - d. **&temp, &num**
 - e. none of the above

6. A diagram of the hierarchical organization of the subproblems of a solution is called _____.

- a. stepwise refinement
- b. a structure chart
- c. a top-down approach
- d. function calls
- e. None of the above

7. Which one of the following expressions does not evaluate to 3?

- a. $2 + 16 \% 5$
- b. $7 - 15 / 4$
- c. $6 * 5 / 10$
- d. $2 - 4 * 3 + 26 / 2$
- e. $8 - 5$

8. Text enclosed in `/* */` in a C program _____.

- a. gives instructions to the processor
- b. declares memory requirements
- c. is ignored by the C compiler
- d. causes a syntax error
- e. None of the above

9. A C compiler detects _____.

- a. syntax errors
- b. run-time errors
- c. result errors
- d. arithmetic faults
- e. None of the above

10. What value is assigned to `q` in the statement

```
q = fun(2, 5, 4);
```

if `fun` is defined as follows?

```
int fun(int q, int b, int c)
{
    int p;

    p = q * b + 2 * c;

    return (p);
}
```

- a. 11
- b. 17
- c. 18
- d. 40
- e. None of the above

11. The formal parameters of the function fun are :

- a. q, fun
- b. p, b, c
- c. q, b, c
- d. p, q, b, c
- e. None of the above

12. What value gets stored in c after the following instructions are executed?

```
int a,b,c;  
a = 5; b = 3;  
c = b * a / b % 2 - 1;
```

- a. 7
- b. 7.5
- c. -1
- d. 0
- e. None of the above

13. The simple program segment for getting the sum of two numbers is.

- a.

```
scanf("%d %d",&Num1, &Num2);  
sum = Num1 + Num2;  
printf("%d",sum);
```
- b.

```
scanf("%d%d",&Num1,&Num2);  
sum = Num1 + Num2;  
printf("%d",sum);
```
- c.

```
scanf("%d %d",&Num1, &Num2);  
average = (Num1 + Num2)/2;  
printf("%d",average);
```
- d.

```
Read Num1, Num2;  
Sum = Num1 + Num2;  
Print Sum;
```
- e. none of the above

14. The correct statement which prints out the text “Welcome”, followed by a newline is :

- a. `printf(“Welcome\n”);`
- b. `printf(Welcome, ‘\n’);`
- c. `printf(‘Welcome\n’);`
- d. `printf(Welcome\n);`
- e. none of the above

15. The UNIX command on arc1.uwindsor.ca to compile a C program called a.c is:

- a. `CC a.c`
- b. `cc a.c`
- c. `pico a.c`
- d. `a.out`
- e. none of the above

16. Which of the following variable declarations are invalid?

- a. `float num;`
- b. `int q;`
- c. `double plywood ;` // there was a typo in the exam (missing ;) -
- d. all of the above // so, Question 16 will not be graded
- e. none of a,b,c

17. A location in the computer’s memory that may contain different values at various times throughout the execution of a program is called a _____.

- a. constant
- b. variable
- c. keyword
- d. entity
- e. None of the above

Use the program given below to answer questions 18 and 19.

```
#include <stdio.h>
void module1(int, int);

void main(void){

    int a, b;

    a=5;
    b=16;

    module1(a,b);

    printf(“%d %d \n”,a, b);

}                                     //end of main

void module1 (int a, int b){
    a = a / 2;
    b = b % 2;
}                                     //end of function module1
```

18. What values of a gets printed when the above program is run ?

- a. 0
- b. 5
- c. 16
- d. 7
- e. none of the above

19. What values of b gets printed when the above program is run ?

- a. 0
- b. 5
- c. 16
- d. 7
- e. none of the above

20. Which of the following statements is a valid call to function abc?

- a. call abc;
- b. abc;
- c. p = abc(q);
- d. void abc(void);
- e. none of the above

21. Write a C assignment instruction for the following mathematical formula:

$$\frac{a + b}{c + d}$$

- a. $a + b / c + d$
- b. $(a + b / c + d)$
- c. $(a + b) / (c + d)$
- d. $a / c + b / d$
- e. None of the above

Use the program below to answer questions 22 and 23 . Line numbers are given for convenience:

```
Line 1 #include <stdio.h>
Line 2 void main(void){

Line 3     int a;
Line 4     int b

Line 5         scanf("%d", &a);
Line 6         b = a + a;

Line 7         printf("New b = %d \n", b);

Line 8     } //end of main
```

22. Which line in the program above has an error ?

- a. Line 3
- b. Line 4
- c. Line 5
- d. Line 6
- e. None of the above

23. In which category does the above error fall into ?

- a. Syntax error
- b. Run-Time error
- c. Logical error
- d. Undetected error
- e. None of the above

Use the program given below to answer questions 24 and 25 :

```
#include <stdio.h>

void main(void){

    int m, n;
    m = 5;
    n = 7;
    m = m + 5;
    n = 3 * n;
    printf("%d \n", m);           //1st print statement
    printf("%d \n", n);         //2nd print statement

}
```

24. What gets printed by the 1st printf statement in the program above :

- a. 10
- b. 35
- c. 21
- d. 12
- e. None of the above

25. What gets printed by the 2nd printf statement in the program above :

- a. 10
- b. 35
- c. 21
- d. 12
- e. None of the above