



Dept. of Computer Engineering
Second Exam, Summer Semester: 2015/2016

Course Title: Programming Language
Course No: (630263)

Date: 21/8/2015
Time Allowed: 1 hour
No. of Pages: 4

Please choose your section:

- Instructor: Dr. Nasser Halasah Eng. Anis Nazer Eng. Sultan Al-Rushdan
- Lecture time: 8:00 9:10 10:20 11:30

Question 1: Multiple Choice Question

(4 marks)

Write the most correct choice for the following questions

(1 mark each)

Question	Answer
<p>1) A loop that continues to execute endlessly is called a(n) _____ loop.</p> <p>A) end B) unlimited C) infinite D) definite</p>	C
<p>2) What is the output of the following code segment ?</p> <pre>int j; for (j = 10; j <= 10; j++) cout << j << " "; cout << j << endl;</pre> <p>A) 10 B) 10 11 C) 10 10 D) 11 11</p>	B
<p>3) Suppose that "printHeading" is a function without any parameters. Which of the following is a valid function prototype?</p> <p>A) void printHeading(); B) void printHeading(noParameters); C) void printHeading() D) void printHeading(void)</p>	A
<p>4) What is the output of the following program?</p> <pre>int help() { static int w = 2; w += w; return w; } int main() { int a; a = help(); a = help(); cout << help(); return 0; }</pre> <p>A) 2 B) 8 C) 4 D) 16</p>	D

Question 2:**(9 marks)**

What is the output of the following code segments ?

(1 mark each)

Assume that the library for input/output is included

Code	Output
<pre>int s=0, c=1; while (s < 20) { s = s + c; c = c + 4; } cout << c << endl << s;</pre>	17 28
<pre>int s1=0, s2=0; for (int i=1; i < 7 ; i++) { if (i % 3 == 0) s1 = s1 + 4; else s2 = s2 + i; } cout << s1 << endl << s2;</pre>	8 12
<pre>int c=0, s=3; do { s = s + 5; c++; } while (s < 5); cout << c << endl << s;</pre>	1 8
<pre>int c, b; for (c = 3, b = 0 ; c < 14 ; c += 3) { b ++; } cout << c << endl << b;</pre>	15 4
<pre>int a, b, c=0; for (a = 1 ; a <= 4 ; a++) for (b = 5 ; b > 2 ; b--) c++; cout << "b=" << b << endl << "c=" << c;</pre>	b=2 c=12
<pre>double MMM(double a, double b) { return a*b; } double AAA(double a, double b) { return a+b; } int main() { cout << AAA(MMM (1, 2) , 3) << endl; cout << MMM(AAA (1, 2) , 3) << endl; return 0; }</pre>	5 9
<pre>void M_16(int a, int & b) { a = 77; b = 22; } int main() { int a = 5, b = 99; M_16 (b , a); cout << a << endl << b; return 0; }</pre>	22 99

Question 2 continued on page 3

GOOD LUCK

Question 2: continued

Code	Output
<pre>double BAGI(double a, double b) { if (a < b) return a; else return BAGI(a-b, b); } int main() { cout << BAGI(10.3, 4.3); return 0; }</pre>	1.7
<pre>double r=2, s=3; double GLG() { int r=9; s = 8; return r; } int main() { int s = 5; r = s + r; cout << r << endl; s = GLG() + ::s; cout << s << endl; return 0; }</pre>	7 17

Question 3:

(4 marks)

Find the **errors** (syntax or logical) in the following code segments and **correct** them. Assume that the library for input and output is included. (Each program may contain more than one error)

(1 mark each)

Code	Correction
<pre>int sum = 0, i; for (i = 1 ; i < 20 ; i+2) { sum += i; }</pre>	<pre>for (i = 1 ; i < 20 ; i = i + 2)</pre>
<pre>int i=0 ; do { if (i % 5) { cout << i << endl; i++; } } while(i < 100)</pre>	<pre>int i=0 ; do { if (i % 5) { cout << i << endl; } i++; } while(i < 100) ;</pre>
<pre>void test(int x , int y); { if (x > y) return (x-y); return (x+y); }</pre>	<pre>int test(int x , int y) { if (x > y) return (x-y); return (x+y); }</pre>
<pre>int x; void f1(double y) { double z; z = (x + y)/2; } int main() { double a , b = 6; cout << x << endl; a = f1(b); cout << a << endl; return 0; }</pre>	<pre>// x is not initailized int x = 5; // function returns void, can't be // assigned to a f1(b);</pre>

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Question 4:**(3 marks)**

- a) Write a function that accepts an integer value x. The function returns:
true if the value of x is even
false if the value of x is odd
- b) Write a program that **calls** the function in part (a) and displays the even numbers between 1 and 100

```
bool isEven ( int x )
{
    if ( x % 2 == 0 )
        return true;
    else
        return false;
}

int main()
{
    int c;
    for ( c = 1 ; c <= 100 ; c++ )
    {
        if ( isEven ( c ) )
            cout << c << " ";
    }
    return 0;
}
```