


Philadelphia University Faculty of Engineering Department of Computer Engineering		Date:- 23/05/2017 Allowed time:- 50 Minutes
Programming Language (630263) Second Exam		
Student Name: -		ID: -
Instructor:-	<input type="checkbox"/> Dr. Nasser Halasa	<input type="checkbox"/> Dr. Ali Al-Khawaldeh
		<input type="checkbox"/> Eng. Sultan Al-Rushdan
Lecture Time:-	<input type="checkbox"/> 10:10-11:10 حتم	<input type="checkbox"/> 11:10-12:10 حتم
	<input type="checkbox"/> 15:10-16:10 حتم	<input type="checkbox"/> 12:10-13:10 حتم
	<input type="checkbox"/> 12:45-14:15 نر	<input type="checkbox"/> 14:15-15:45 نر

Question 1: choose the correct answer for the following questions. 5 Points.

1- Which of the following correctly declares and initializes an array of 4 rows and 3 columns .

- a. `int alpha[4][3] = {{0,1,2} {1,2,3} {2,3,4} {3,4,5}};`
b. `int alpha[4][3] = {0,1,2; 1,2,3; 2,3,4; 3,4,5};`
c. `int alpha[4][3] = {0,1,2: 1,2,3: 2,3,4: 3,4,5};`
d. `int alpha[4][3] = {{0,1,2}, {1,2,3}, {2,3,4}, {3,4,5}};`

2- Which of the following correctly declares an array?

- a) `int array[10];` b) `int array;` c) `array{10};` d) `array int[10];`

3- A is an Array of 15 elements Which of the followings will correctly display the first 5 elements.

- A) `for(int i=0;i<4;i++)`
 `cout<<A[i];`
B) `for(int i=0;i<=4;i++)`
 `cout<<A[i];`
C) `for(int i=1;i<5;i++)`
 `cout<<A[i];`
D) `for(int i=0;i<=5;i++)`
 `cout<<A[i];`

4- Which keyword is used to end the current loop?

- A. `break` B. `continue` C. `return` D. None of the mentioned

5- How many times "hello" will be printed in the below code?

```
int i = 0;
do {
    i++;
    cout<<"hello\n";
} while (i < 3);
```

- A. 2 B. 3 C. 4 D. 1

Question 2: Write C++ statement(s) that accomplish the following. 2 Points.

Write a for statement that displays the even numbers between 1 and 20.	<pre>for(int i=2;i<=20;i+=2) cout<<i<<endl;</pre>
Declare an array of 19 elements then initialize it with the following numbers using for loop 1 , 3 , 5 , 7 ,9,....	<pre>int A[19]; for(int i=0,j=1;i<19;i++,j+=2) A[i]=j;</pre>

Question 3:- What is the output of the following code segments.

5 Points.

<pre>int n = 10 , y = 0; while (n >= 0) { y = y + 2; n--; } cout<<" n = "<< n <<"and y = "<< y <<endl;</pre>	<p style="text-align: center; color: red;">n=-1 y=-22</p>
<pre>int A [5]={0}; A[1]=7; A[2]=5; A[3]=-2; for (int i = 0; i < 5 ; i+=2) cout << A[i] <<" "; cout << endl;</pre>	<p style="text-align: center; color: red;">0 5 0</p>
<pre>int sum=0; int i; for(i=9;i>2;i-=2) { sum+=i; } cout<<sum<<" " << i << endl;</pre>	<p style="text-align: center; color: red;">24 1</p>
<pre>int temp[3][3]={{1,2,3},{4,5,6},{7,8,9}}; for (int i = 0 ; i < 3 ; i++) { cout << temp[i][2-i] <<endl;</pre>	<p style="text-align: center; color: red;">3 5 7</p>
<pre>int x=9; float a=1.1 do { cout<< x * a << endl; x++; } while(x < 5); cout<< x <<endl;</pre>	<p style="text-align: center; color: red;">9.9 10</p>

Question 4: Find the errors(syntax or semantics) in the following code segments and correct them.

3 Points.

<pre>int G[6] = {3,9,1,-2,7,4,-3}; int S = 0; for (i=0; i < 6 ; i++) S += G[i]; cout << S;</pre>	<p>Too many initializers int G[6] = {3,9,1,-2,7,4};</p> <p>i undefined variable for (int i=0; i < 6 ; i++)</p>
<pre>int x = 1 , y = 0; do { y = x + 2; x++; } while (y <= 10) cout << y;</pre>	<p>do { y = x + 2; x++; } while (y <= 10);</p>
<pre>int j=1; while (j <= 10) cout << "Hello" << endl</pre>	<p>Infinite loop while (j++ <= 10) cout << "Hello" << endl;</p>

Question 5: Write a program that perform the followings:

5 Points.

- 1- Define an array of 20 real elements
- 2- Ask the user to enter 20 number and store them in the array
- 3- Find the average of the numbers stored in the array
- 4- Count the numbers Greater than the average.
- 5- Display the results.

```
#include<iostream>
using namespace std;

void main()
{
    const int size=20;
    float Arr[size];
    float sum=0.0, avg;
    int counter=0;

    for(int i=0; i<size; i++)
        cin>>Arr[i];

    for(int i=0; i<size; i++)
        sum+=Arr[i];

    avg=sum/size;

    for(int i=0; i<size; i++)
    {
        if(Arr[i]>avg)
            counter++;
    }

    cout<<"Avg="<<avg<<endl;
    cout<<"Counter="<<counter<<endl;
}
```