

وقت المراجعة



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22/07/2026

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OL Academy

مدرس المقرر



أحمد كريم

ITCS110/CSC103

Computer Programming for Scientists and Engineers

Midterm Exam Revision



LIVE

سجّل الآن
عبر موقعنا

الرسوم

5

دينار فقط



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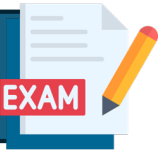
[66939059](https://wa.me/66939059)

Past Exam Solution

First Semester, 2025-2026

QUESTION #1:

EXAM



Part A: Perform the following and **show your detailed steps**

1 $(8AF3)_{16} = (\quad)_2$

2 $(141)_{10} = (\quad)_8$

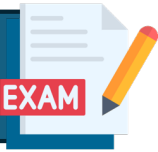
3 $(BF5A)_{16} = (\quad)_8$

3 $(101101)_2 * (1100)_2 = (\quad)_2$

Part B: A game center asks you to draw a flowchart of a program that asks the user to enter from the keyboard the **age** and **height** of a child, then the program should print a message saying “**Great, You can Play**” if the child’s age is above 5 years and his/her height is not less than 120 cm; otherwise the program should print a message “**Sorry, You can’t play !**”.

QUESTION #2:

EXAM



Part #A: Output

Show the exact output produced after executing each of the following C++ codes.

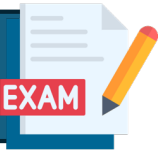
a

```
int x=9, y=7, z=10, w;  
y += z;  
cout << "Y = " << y << endl;  
w = x - 24 / z * (x - 7 / z);  
cout << "W = " << w << endl;
```

OUTPUT:

QUESTION #2:

EXAM



Part #B: output

b

```
double x=44.99, y=84.376, w= -58.469;
cout << "X =" << setfill('$') << setw(9) << x << '\n';
cout << fixed << setprecision(2) << setfill('#') ;
cout << "W =" << setfill('*') << setw(10)<< w << endl;
cout << "RCT =" << left << setw(10)<< w << endl;
```

OUTPUT:



```
double x =8.5, y = 9.5;
if (x > y)
cout << 4 * y - x << '\t';
else
cout << x - 2 * y << '\t';
cout << "Hello ITCS110 !\n ";
```

OUTPUT:

d

```
int j=19, k=17;
while (j >= 10 && k >= 12)
{
    j+=5 ; k -=3 ;
    cout << j / 4 << k % 5 ;
}
```

OUTPUT:

QUESTION #2:



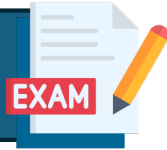
Part #B: Multiple Choice

Circle the best correct answer

1 A statement that defines a variable **len** used to store one character equals to 'Y' or 'N' is:

- (a) int len;
- (b) double len;
- (c) bool len SW:
- (d) char len;
- (e) None

QUESTION #2:



Part #B: Multiple Choice

Circle the best correct answer

2 A manipulator required to display a floating-point number with 3 decimal places is:

- (a) `cmath;`
- (b) `setfill('3');`
- (c) `setprecision(3)`
- (d) `setw(3);`
- (e) None

QUESTION #2:



Part #B: Multiple Choice

Circle the best correct answer

3

For the input line: **75.40 21.88 77.66**, What will be in *t2,t3,t4* variables after executing the following C++ code?

```
int t4 ; double t2, t3;  
cin >> t4 >> t3 >> t2 ;
```

- (a) *t4=7 t3=5.40 t2=21.88*
- (b) *t4=75 t3=0.40 t2= 21.88*
- (c) *t4=75.40 t3=21.88 t2=77.66*
- (d) *t4=75 t3=40 t2=21.88*
- (e) None

QUESTION #3:

EXAM

Part #B: A triangle is a geometric shape with three sides, where the length of each must be larger than zero and is less than the sum of the other two sides. Write a C++ program that prompts the user to enter from the KBD 3 values of type **float**. If any value is ≤ 0 , then prints a message: **“Great. Your program done”**. Otherwise, if these values can't form a valid triangle, prints the values separated by semicolon ';', followed by a message: **“invalid triangle”**. Otherwise, calculate the area of the triangle as shown below and prints the values followed by the calculated area. Data entry of sides continues until a negative value is entered for any side length. All numbers must be printed with one decimal digit.

$$f = \frac{sideA + sideB + sideC}{2.0}$$

$$area = \sqrt{(f - sideA)(f - sideB)(f - sideC)}$$

A sample input/output of the program is given below:

Sample RUN

```
Enter lengths of triangle sides (float)please: 6.0 8.0 10.0  
6.0 8.0 10.0 area = 24.0  
Enter lengths of triangle sides (float)please: 8.0 12.0 24.0  
8.0 12.0 24.0 invalid triangle  
Enter lengths of triangle sides (float)please: 3.0 4.0 -5.0  
Great. Your program done
```

