

وقت المراجعة



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14/08/2026

07:30



09:30 PM



مدرس المقرر



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ITCS110/CSC103

Computer Programming
for Scientists and Engineers

Final Exam Revision



سجّل الآن
عبر موقعنا

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فقط

5

دينار فقط



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QUESTION #1:



Show the output

1

```
bool OK=false;
int w=10;
while ( w > 2 )
{
    w = w - 3;
    cout<< w << endl;
    if ( !OK ){
        cout<<"Print"<<endl;
        continue;
    }
}
```

```
int num = 5;
char let = 'F';
if ( 'B' < let ) {
    --num;
    cout<<"Number is "<< num << endl;
}
switch ( let ) {
    case 'F':
        cout<<"Outstanding";
        break;
    case 'M':
    default:
        cout<<"Not impressive";
}
```

```
int m1, m2;
int Array[6]={5,8,10,13,2,2};
for (int y=1; y<=5; y+=2)
{
    cout<< Array[y] <<endl;
    m1 = y + Array[y];
    m2 = y + Array[y]%2;
    if ( m1 < m2 )
        cout<< m1 << endl;
    else
        cout<< m1 << "==" << m2 << endl;
}
```

```
void Squeeze( ){
    int G=12;
    static int S= -4;
    G = G + S;
    cout<<"G= "<< G <<" S= "<< S <<endl;
    S--;
    G++;
}

int main()
{
    cout<<"First  Call"<< endl;
    Squeeze();
    cout<<"Second Call"<< endl;
    Squeeze();
    return 0;
}
```

```
char Mat[5][2]={ { 'A','B'}, { 'A','C'}, { 'O','P'},  
                 { 'O','R'}, { 'M','N'} };  
for (int r=3; r<5; r++)  
    for(int c=0; c<2 ; c++)  
        cout<< Mat[r-c][c];
```

QUESTION #2:

EXAM



Write a C++ program that uses **nested for-loops** to display a shape of characters (see examples). The program should ask the user to enter an integer n representing the number of rows/columns in a square. The number n should be positive and not less than 5. If the user input for n is invalid, then display an appropriate message and exit the program. The program should display a square of size n filled with different characters. The second row and row before last should be filled with the character (#). All other rows will be filled with the character (*).

if $n = 4$	if $n = 5$	if $n = 6$	if $n = 7$
Error, small number	* * * * * # # # # # * * * * * # # # # # * * * * *	* * * * * * # # # # # # * * * * * * * * * * * * # # # # # # * * * * * *	* * * * * * * # # # # # # # * # # # # # # # * * * * * * *

QUESTION #3:



Part #A: Write a function called Admission that accepts three parameters: School Score **SS** (double), Written Test Score **TS** (double) and Interview Score **IS** (double). The function will calculate total score as follows:

$$\text{total score} = \text{School Score} + \text{Written Test Score} + \text{Interview Score}$$

Then the function will return admitted college (string) as follows:

Total Score	Admitted college
≥ 90	Engineering
80 to 89	IT
< 80	Others

Part #B: Complete the below main program to prompt the user to enter the School score (double), the Written Test Score (double) and the Interview Score (double). The program will then display the admitted college by calling the function defined in Part (A). Follow the sample below.

SAMPLE INPUT/OUTPUT

```
Enter School, Written test and Interview Scores:
```

```
65 12 14
```

```
Admitted College is Engineering
```

QUESTION #4:

EXAM



Write a function named **BusStatistics()**, that takes as parameter a two-dimensional array named **bus** of size 4x5. By referring to the given Figure, the rows in the array **bus** represent the bus routes and the columns represent the days that the buses run. The numbers in the slots of the array show the number of passengers that were on a given route on a given day.

The function will perform the following:

1. For each route, print the total number of passengers.
2. For each route, find and print the largest number of passengers.
3. For all routes and all days, find and print the largest number of passengers.

	Routes				
	Mon	Tue	Wed	Thu	Fri
	0	1	2	3	4
0	8	12	9	7	10
1	5	7	3	1	4
2	20	15	18	31	14
3	6	9	0	8	11