


Faculty of Electrical, Electronic & Computer Technology	 <b>SAXONY EGYPT UNIVERSITY</b> FOR APPLIED SCIENCE AND TECHNOLOGY
Computer Programming	
ECT 121	
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## Sheet 2

### 1) Multiple Choice Questions (MCQs)

1. Which data type is used to store a single character?
  - a) int
  - b) char
  - c) float
  - d) bool
  
2. What is the size of double in C++?
  - a) 4 bytes
  - b) 8 bytes
  - c) 2 bytes
  - d) 16 bytes
  
3. What is the result of  $5 / 2$  in C++?
  - a) 2
  - b) 2.5
  - c) 2.0
  - d) 3
  
4. What will happen if we assign a decimal value to an int variable?
  - a) Compilation error
  - b) Rounding off to the nearest integer
  - c) Storing the exact decimal value
  - d) None of the above
  
5. Which data type is best for storing precise decimal values?
  - a) float
  - b) double
  - c) int

d) bool

6. Which of the following is a valid variable name in C++?

- a) lvariable
- b) variable\_name
- c) variable-name
- d) variable name

## 2) Problems :

1. Write a program that declares two integer variables, assigns them values, and prints their sum .
2. Write a program to take a user's name as input and display a greeting message.
3. Write a C++ Program to convert the temperature given in degrees Celsius to degrees Fahrenheit, given the following equation: Fahrenheit = 1.8(Celsius) +32 .
4. Write a C++ Program to add, subtract, multiply and divide two float variables entered by user .
5. Declare a float variable to store the radius of a circle and calculate its area using  $PI * r * r$ .
6. Write a program to swap two numbers using a temporary variable.
7. Write a program to swap two variables without using a temporary variable.

## 3) Write a single C++ statement to accomplish each of the following:

- a) Read an integer from the keyboard and store the value entered in integer variable a.
- b) Print the message "This is a C++ program." on one line.
- c) Print the message "This is a C++ program." on two lines so that the first line ends with "C++".
- d) Print the message "This is a C++ program." with each word on a separate line.
- e) Print the message "This is a C++ program." with the words separated by tabs.
- f) Prompt the user to enter three integers.
- g) Read three integers from the keyboard and store them in the variables x, y, z.
- h) Compute the product of the three integers contained in variables x, y, z, and assign the result to the variable result.

## 4) Calculate the value of the variable X for the following expressions:

Assume a = 2, b = 4, c = 5, X = 6

- a)  $x = a++ - --b;$
- b)  $x -= ++b - c++;$
- c)  $x += a++ - --b;$
- d)  $x *= b/a + c\%a;$

## 5) Debugging Questions

1. Identify the error in the following code:

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

int main(){

    int a = 5;
    string b = "10";
    int c = a + b;
    cout << c ;

    system("pause");
    return 0;
}
```

2. What is wrong with this code?

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

int main(){

    int x = 10;
    int y = 0;
    int z = x / y;
    cout << z;

    system("pause");
    return 0;
}
```

3. Fix the following code:

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

int main(){

    int a = 5;
    int b = 10;
    cout << "The sum is: " + a + b;

    system("pause");
    return 0;
}
```

4. What is the value of X , Y and Z will be ?

```
#include <iostream>
using namespace std;
int main()
{
    int x = 1, y = 2, z = 3;
    x = y + z;
    y = x * z;
    z = x;
    y = 2;
    x += z;
    z = x % y;
    z /= 13;
    return 0;
}
```

6) State the order of evaluation of the operators in each of the following C++ statements and show the value of x after each statement is performed.

- a)  $x = 7 + 3 * 6 / 2 - 1;$
- b)  $x = 2 \% 2 + 2 * 2 - 2 / 2;$
- c)  $x = (3 * 9 * (3 + (9 * 3 / (3))));$