
Lab. (6) **Revision**

Answer the following questions

Question One:

Write a C++ program that reads an 8-bit binary number (b7 b6 b5 b4 b3 b2 b1 b0) from the user then performs the shift left operation according to the shift value specified by the user.

Question Two:

Write a C++ program that reads a guest balance from the user for a guest which his balance (0:10000) as an input argument. The program yields the interest rate according to the following table:

| balance | Interest rate |
|--------------------------|---------------|
| 5000 <= balance <= 10000 | 7 % |
| 2500 <= balance < 5000 | 5 % |
| 1000 <= balance < 2500 | 3 % |
| 100 <= balance < 1000 | 2 % |
| balance < 100 | 0 % |

Question Three:

Write a C++ program to calculate the sum and average for a group of (n) numbers (max value of n=5). The program will ask the user to enter (n) and then enter each number. *Hint use switch case method.*

Question Four:

Write a C++ program to establish a password consists of seven numbers for the treasury of a factory. In the case of entering correct password, a message will appear to the user (Treasury ready to open). Whereas in case of entering incorrect password, a message will appear to the user (sorry, try again). The program permits the user to enter incorrect password for only 3 times then terminates. Remark a password is (2385110).

Question Five:

Write a C++ program that displays the following menu:

1. convert from Celsius to Fahrenheit
2. convert from Celsius to Kelvin

3. convert from Kelvin to Celsius
4. convert from Fahrenheit to Celsius

The program should first ask the user to select a converter (1 or 2 or 3 or 4). If for example the user enters 2 then the program will ask the user to “enter the temperature in Celsius” and then calculates the temperature in Kelvin and displays this on the screen “temperature in Kelvin = “.

$$\text{Kelvin} = \text{Celsius} + 273$$

$$\text{Fahrenheit} = (\text{Celsius} * 9/5) + 32$$

Question Six:

Write a C++ program that ask the user to enter a number with any value. The program then checks the value of the entered number if the value is in between 0 and 100 (both included) the program prints “in range” otherwise the program prints “out of range”.

Question Seven:

Write a C++ program that ask the user to enter the value of two numbers. Then the program checks the values entered, if the two numbers are same print “the same” on the screen and terminates the program, otherwise print “not equal” on the screen and ask the user to enter the two numbers again. The program permits the user to enter unequal numbers for only 3 times then terminates.

Question Eight:

Select one of the choices (a, b, c, d) that best suites the given statement:

- 1) if (60 <= 12 * 5)

cout << "Hello";

cout << " There";

outputs the following:

- (a) Hello There (b) Hello (c) Hello (d) There

There

- 2) if (5 < 3)

cout << " *";

else if (7 == 8)

cout << "&";

else

cout << "\$";

outputs the following:

- (a) * (b) & (c) \$ (d) none of these

Question Nine:

What is the output of the following C++ program?

```
int myNum = 10;
int yourNum = 30;
if (yourNum % myNum == 3)
{
yourNum = 3;
myNum = 1;
}
else if (yourNum % myNum == 2)
{
yourNum = 2;
myNum = 2;
}
else
{
yourNum = 1;
myNum = 3;
}
cout << myNum << " " << yourNum << endl;
```

Question Ten:

Write a program that will display a list of products:

- | | | |
|-----------------|---------------|----------------|
| 1- Honey (40LE) | 2- Tea (10LE) | 3- Sugar (5LE) |
| 4- Meat (90LE) | 5- Salt (2LE) | 6- Oil (10LE) |

And ask the user to enter the product number plus how many of it, (note: the user can select more than one product). Finally, the program will stop and out the total price if the user enters 0 at the product number.