# IF ELSE QUESTIONS

## Question#1

Check Whether a number is Even or Odd?

## Question#2

**Print the type of number whether it is a positive number, negative number or a decimal number.**

## Question#3

Write a program that converts Celsius temperatures to Fahrenheit temperatures. The
formula is **F=9/5C+32**
where F is the Fahrenheit temperature and C is the Celsius temperature. The program
should prompt the user to input a Celsius temperature and should display the corresponding
Farenheit temperature.

## Question#4

Write a program that will convert U.S. dollar amounts to Japanese yen and to euros,

storing the conversion factors in the constant variables
YEN_PER_DOLLAR and
EUROS_PER_DOLLAR. To get the most up-to-date exchange rates, search the Internet
using the term “currency exchange rate” or “currency converter”. If you cannot find the
most recent exchange rates, use the following:
1 Dollar = .952 Yen
1 Dollar = .7175 Euros

## Question#5

Enter 3 test scores and average them
If average is greater than  100.0 so print

**Congratulations! That's a perfect score!**

## Question#6

Create a if else task that assign grades according to the numbers
**e.g:**

90 = A
80 = B

And so on....

## Question# 7

Write a program that asks the user to enter two numbers. The program should use the conditional operator to determine which number is the smaller and which is the larger.

## Question# 8

Write a program that asks the user to enter a number within the range of 1 through 10.
Use a switch statement to display the Roman numeral version of that number.
Input Validation: Do not accept a number less than 1 or greater than 10.

## Question#9

The area of a rectangle is the rectangle's length times its width. Write a program that asks for the length and width of two rectangles. The program should tell the user which rectangle has the greater area, or if the areas are the same.

## Question# 10

The date June 10, 1960, is special because when we write it in the following format, the
month times the day equals the year.
6/10/60
Write a program that asks the user to enter a month (in numeric form), a day, and a two-
digit year. The program should then determine whether the month times the day is equal to the year. If so, it should display a message saying the date is magic. Otherwise, it should display a message saying the date is not magic.

## Question# 11

Scientists measure an object's mass in kilograms and its weight in newtons. If you know an
object's mass, you can calculate its weight in newtons with the following formula:

**weight = mass X 9.8**

Write a program that asks the user to enter an object's mass, and then calculates and displays
its weight. If the object weighs more than 1000 newtons, display a message indicating that
it is too heavy. If the object weighs less than 10 newtons, display a message indicating that
the object is too light.

## Question# 12

This is a modification of the math tutor problem in Chapter 3. Write a program that can be

used as a math tutor for a young student. The program should display two random numbers between 10 and 50 that are to be added, such as:

```
  24
+ 12
  ——
```

The program should then wait for the student to enter the answer. If the answer is correct,

a message of congratulations should be printed. If the answer is incorrect, a message should be printed showing the correct answer.

## Question# 13

Write a program that asks the user to enter a number of seconds.

• There are 86400 seconds in a day. If the number of seconds entered by the user is
greater than or equal to 86400, the program should display the number of days in
that many seconds.

• There are 3600 seconds in an hour. If the number of seconds entered by the user is
less than 86400, but is greater than or equal to 3600, the program should display the
number of hours in that many seconds.

• There are 60 seconds in a minute. If the number of seconds entered by the user is less
than 3600, but is greater than or equal to 60, the program should display the number
of minutes in that many seconds.

## Question# 14

A software company sells a package that retails for $99. Quantity discounts are given according to the following table.

| Quantity | Discount |
|---|---|
| 10–19 | 20% |
| 20–49 | 30% |
| 50–99 | 40% |
| 100 or more | 50% |

Write a program that asks for the number of units purchased and computes the total cost of the purchase.

*Input Validation: Make sure the number of units is greater than 0.*

## Question# 15

A bank charges $10 per month plus the following check fees for a commercial checking
account:

**$.10 each for fewer than 20 checks**
**$.08 each for 20–39 checks**
**$.06 each for 40–59 checks**
**$.04 each for 60 or more checks**

Write a program that asks for the number of checks written during the past month, then
computes and displays the bank's fees for the month.
Input Validation: Do not accept a negative value for the number of checks written.

## Question# 16

Write a program that displays the following menu:
Geometry Calculator

1. Calculate the Area of a Circle
2. Calculate the Area of a Rectangle
3. Calculate the Area of a Triangle
4. Quit

Enter your choice (1-4):
If the user enters 1, the program should ask for the radius of the circle and then display its
area. Use 3.14159 for $\pi$ . If the user enters 2, the program should ask for the length and

width of the rectangle, and then display the rectangle's area. If the user enters 3, the pro-
gram should ask for the length of the triangle's base and its height, and then display its

area. If the user enters 4, the program should end.
Input Validation: Display an error message if the user enters a number outside the
range of 1 through 4 when selecting an item from the menu. Do not accept negative
values for the circle's radius, the rectangle's length or width, or the triangle's base or
height.

**Question# 17**

Write a program that asks for the number of calories and fat grams in a food.
The program should display the percentage of calories that come from fat.
If the calories from fat are less
than 30 percent of the total calories of the food, it should also display a message indicating
the food is low in fat.

One gram of fat has 9 calories, so
Calories from fat = fat grams * 9
The percentage of calories from fat can be calculated as
Calories from fat ÷ total calories

**Input Validation:**

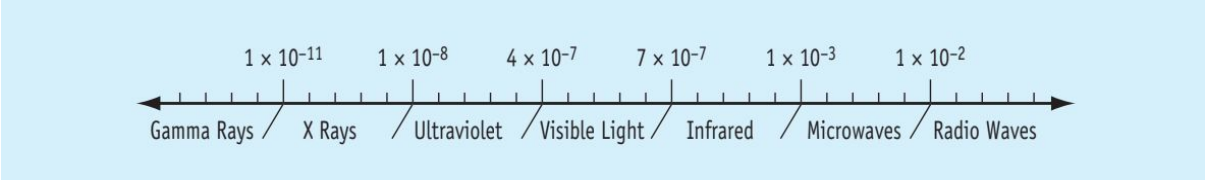
Make sure the number of calories is greater than 0 and the number
of fat grams is 0 or more. Also, the number of calories from fat cannot be greater than
the total number of calories. If that happens, display an error message indicating that
either the calories or fat grams were incorrectly entered.

**Question# 18**

If a scientist knows the wavelength of an electromagnetic wave she can determine what

type of radiation it is. Write a program that asks for the wavelength in meters of an electro-
magnetic wave and then displays what that wave is according to the following chart. (For

example, a wave with a wavelength of 1E-10 meters would be an X-ray.)




## Question# 19

An Internet service provider has three different subscription packages for its customers:

Package A: For $9.95 per month 10 hours of access are provided. Additional hours are $2.00 per hour.

Package B: For $14.95 per month 20 hours of access are provided. Additional hours are $1.00 per hour.

Package C: For $19.95 per month unlimited access is provided.

Write a program that calculates a customer's monthly bill. It should input customer name,

which package the customer has purchased, and how many hours were used. It should then create a bill that includes the

input information and the total amount due. The bill should be written to a file.

**Input Validation:** Be sure the user only selects package A, B, or C. Also, the number of hours used in a month cannot exceed 744.

## Question# 20

A long-distance carrier charges the following rates for telephone calls between the United
States and Mexico:

| Starting Time of Call | Rate per Minute |
|---|---|
| 00:00–06:59 | $0.12 |
| 07:00–19:00 | 0.55 |
| 19:01–23:59 | 0.35 |

Write a program that asks for the starting time and the number of minutes of the call, and displays the charges. The program should ask for the time to be entered as a floating-point number in the form HH.MM. For example, 07:00 hours will be entered as 07.00, and
16:28 hours will be entered as 16.28.

**Input Validation:**

The program should not accept times that are greater than 23:59.

Also, no number whose last two digits are greater than 59 should be accepted.

Hint: Assuming num is a floating-point variable, the following expression will give you
its fractional part: **num - static_cast<int>(num)**