1. **Exercise:** **Even or Odd**?

Write a program that reads an integer from the user. Then your program should display a message indicating whether the integer is even or odd.

1. **Exercise: Vowel or Consonant**

Write a VB net a program that reads a letter of the alphabet from the user. If the user enters a, e, i, o or u then your program should display a message indicating that the entered letter is a vowel. If the user enters y then your program should display a message indicating that sometimes y is a vowel, and sometimes y is a consonant. Otherwise your program should display a message indicating that the letter is a consonant.

1. **Exercise: Name that Shape**

Write a VB net program that determines the name of a shape from its number of sides. Read the number of sides from the user and then report the appropriate name. Your program should support shapes with anywhere from 3 up to (and including) 10 sides. If a number of sides outside of this range is entered then your program should display an appropriate error message.

1. **Exercise : Month Name to Number of Days**

Write a VB.Net program that reads the name of a month from the user as a string. Then the program should display the number of days in that month. Display “28 or 29 days” for February.

January 31,February (28 or 29), March 31, April 30, May 31, June 30, July 31, August 31, September 30, October 31, November 30, December 31

1. **Exercise: Name that Triangle**

A triangle can be classified based on the lengths of its sides as equilateral, isosceles or scalene. All 3 sides of an **equilateral triangle have the same length**. An **isosceles triangle has two sides that are the same length**, and a third side that is a different length. If all of the sides have different lengths then the triangle is **scalene**. Write a VB Net program that reads the lengths of 3 sides of a triangle from the user. Display a message indicating the type of the triangle.

1. **Exercise: Note to Frequency**

The following table lists an octave of music notes, beginning with middle C, along with their frequencies.

|  |  |
| --- | --- |
| Note | Frequency (Hz) |
| C4 | 261.63 |
| D4 | 293.66 |
| E4 | 329.63 |
| F4 | 349.23 |
| G4 | 392.00 |
| A4 | 440.00 |
| B4 | 493.88 |

Write a VB net program to input the note from the user and then the program show the frequency of the note.

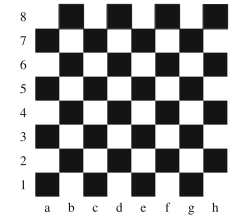
1. **Exercise: Faces on Money**

Write a VB net program that begins by reading the amount of money. Then your program should display the name of the person that appears on the currency. An appropriate error message should be displayed if no such note exists. For Example if the user input $20 the answer will be Andrew Jackson

|  |  |
| --- | --- |
| Person | Amount |
| George Washington | $1 |
| Thomas Jefferson | $2 |
| Abraham Lincoln | $5 |
| Alexander Hamilton | $10 |
| Andrew Jackson | $20 |
| Ulysses S. Grant | $50 |
| Benjamin Franklin | $100 |

**Exercise: What Color is that Square?**

Positions on a chess board are identified by a letter and a number. The letter identifies the column, while the number identifies the row, as shown below: Write a program in VB .net that reads a position from the user and show the color if it white or black. Exampl c2 🡪 white



1. **Exercise : Chinese year**

The Chinese assigns animals to years in a 12 year cycle. One 12 year cycle is shown in the table below. Write a program that reads a year from the user and displays the animal associated with that year.

|  |  |
| --- | --- |
| Year | Animal |
| 2000 | Dragon |
| 2001 | Snake |
| 2002 | Horse |
| 2003 | Sheep |
| 2004 | Monkey |
| 2005 | Rooster |
| 2006 | Dog |
| 2007 | Pig |
| 2008 | Rat |
| 2009 | Ox |
| 2010 | Tiger |
| 2011 | Hare |

**Exercise: Richter Scale**

The following table contains earthquake magnitude ranges on the Richter scale and their descriptors:

|  |  |
| --- | --- |
| Magnitude | Descriptor |
| Less than 2.0 | Micro |
| 2.0 to less than 3.0 | Very minor |
| 3.0 to less than 4.0 | Minor |
| 4.0 to less than 5.0 | Light |
| 5.0 to less than 6.0 | Moderate |
| 6.0 to less than 7.0 | Strong |
| 7.0 to less than 8.0 | Major |
| 8.0 to less than 10.0 | Great |
| 10.0 or more | Meteoric |

Write a program In VB NET that reads a magnitude from the user and displays the appropriate descriptor as part of a meaningful message. For example, if the user enters 5.5 then your program should indicate that a magnitude 5.5 earthquake is considered to be a moderate earthquake.

1. **Exercise: Letter Grade to Grade Points**

At a particular university, letter grades are mapped to grade points in the following manner:

|  |  |
| --- | --- |
| Letter | Grade points |
| A+ | 4.0 |
| A | 4.0 |
| A− | 3.7 |
| B+ | 3.3 |
| B | 3.0 |
| B− | 2.7 |
| C+ | 2.3 |
| C | 2.0 |
| C− | 1.7 |
| D+ | 1.3 |
| D | 1.0 |
| F | 0 |

Write a program in VB NET that begins by reading a letter grade from the user. Then your program should display the equivalent number of grade points. Ensure that your program generates an appropriate error message if the user enters an invalid letter grade.

1. **Exercise: Wavelengths of Visible Light**

The wavelength of visible light ranges from 380 to 750 nanometers (nm). While the spectrum is continuous, it is often divided into 6 colors as shown below:

|  |  |
| --- | --- |
| Color | Wavelength (nm) |
| Violet | 380 to less than 450 |
| Blue | 450 to less than 495 |
| Green | 495 to less than 570 |
| Yellow | 570 to less than 590 |
| Orange | 590 to less than 620 |
| Red | 620 to 750 |

Write a VB.NET program that reads a wavelength from the user and reports its color. Display an appropriate error message if the wavelength entered by the user is outside of the visible spectrum.

1. **Exercise: Frequency to Name**

Electromagnetic radiation can be classified into one of 7 categories according to its frequency, as shown in the table below:

|  |  |
| --- | --- |
| Name | Frequency range (Hz) |
| Radio waves | Less than 3 × 109 |
| Microwaves | 3 × 109 to less than 3 × 1012 |
| Infrared light | 3 × 1012 to less than 4*.*3 × 1014 |
| Visible light | 4*.*3 × 1014 to less than 7*.*5 × 1014 |
| Ultraviolet light | 7*.*5 × 1014 to less than 3 × 1017 |
| X-rays | 3 × 1017 to less than 3 × 1019 |
| Gamma rays | 3 × 1019 or more |

Write aVB.NET program that reads the frequency of the radiation from the user and displays the appropriate name.

1. **Exercise: Is it a Leap Year?**

Most years have 365 days. However, the time required for the Earth to orbit the Sun is actually slightly more than that. As a result, an extra day, February 29, is included in some years to correct for this difference. Such years are referred to as leap years. The rules for determining whether or not a year is a leap year follow:

• Any year that is divisible by 400 is a leap year.

• Of the remaining years, any year that is divisible by 4 is a leap year.

• All other years are not leap years.

Write a program in VB NET that reads a year from the user and displays a message indicating whether or not it is a leap year.

1. **Exercise: Richter scale**

The following table contains earthquake magnitude ranges on the Richter scale and their descriptors:

|  |  |
| --- | --- |
| Magnitude | Descriptor |
| Less than 2.0 | Micro |
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| 7.0 to less than 8.0 | Major |
| 8.0 to less than 10.0 | Great |
| 10.0 or more | Meteoric |

Write a program in VB.net that reads a magnitude from the user and displays the appropriate descriptor as part of a meaningful message. For example, if the user enters 5.5 then your program should indicate that a magnitude 5.5 earthquake is considered to be a moderate earthquake.

1. Exercise