

**Mr. Giansante**



# **Visual Basic**

**Astrology**

**August 2016**

# Astrology

## Difficulty Level:

Beginner  
**Intermediate**  
 Advanced

## Help References:

Design a Visual Basic program that allows a user to

Write a visual basic program that will give the user information about their date of birth.

The program should tell the user ...

- what their astrological sign is
- what Chinese year they were born in
- if they were born on a leap year
- on what weekday they were born
- their birth flower and gem

## Astrological Signs

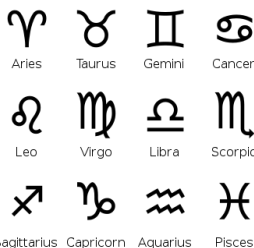
To display a graphical representation of the astrological sign, you can use the graphics provided..

### Sign

Aries (Ram)  
 Taurus (Bull)  
 Gemini (Twins)  
 Cancer (Crab)  
 Leo (Lion)  
 Virgo (Virgin)  
 Libra (Scales)  
 Scorpio (Scorpion)  
 Sagittarius (Archer)  
 Capricorn (Sea-goat)  
 Aquarius (Water)  
 Pisces (Fish)

### Dates

March 21 to April 20  
 April 21 to May 20  
 May 21 to June 21  
 June 22 to July 22  
 July 23 to August 23  
 August 24 to September 22  
 September 23 to October 22  
 October 23 to November 22  
 November 23 to December 22  
 December 23 to January 19  
 January 20 to February 19  
 February 20 to March 20



## Chinese Sign

To determine the Chinese sign, determine the remainder when the year they were born in is divided by 12 (ie. use the Mod operator).

Animal	Year
Dog	1910, 1922 ...
Boar/Pig	1911, 1923 ...
Rat	1912, 1924 ...
Ox	1913, 1925 ...
Tiger	1914, 1926 ...
Rabbit	1915, 1927 ...
Dragon	1916, 1928 ...
Snake	1917, 1929 ...
Horse	1918, 1930 ...
Goat	1919, 1931 ...
Monkey	1920, 1932 ...
Rooster	1921, 1933 ...

Like the Western calendar, The Chinese Lunar Calendar is a yearly one, with the start of the lunar year being based on the cycles of the moon. Therefore, because of this cyclical dating, the beginning of the year can fall anywhere between late January and the middle of February.

For the purposes of this class, if a person is born between mid January and mid February, you can simply state something like the following:

"Because you were born around the time of the Chinese New Year (which can fall anywhere between late January and the middle of February), your Chinese sign is either Monkey or Rooster."

## Birth Flowers and Gems

Month	Flower	Gem
January	Carnation	Garnet
February	Violet	Amethyst
March	Jonquil	Aquamarine
April	Sweet Pea	Diamond
May	Lily of the Valley	Emerald
June	Rose	Pearl
July	Larkspur	Ruby
August	Gladiolus	Peridot
September	Aster	Sapphire
October	Calendula	Opal
November	Chrysanthemum	Topaz
December	Narcissus	Turquoise

# Astrology

## Leap Year Rule

A year is a leap year if it is divisible by 4  
... but it is not a leap year if it is divisible by 100  
... but it is a leap year if it is divisible by 400

Example: 1900 is not a leap year

Note: 2100 is a leap year (in violation of the rule) by International agreement

## Weekday of a Given Date

The following procedure will work for dates between 1900 and 2099.

1. Take the last two digits of the year
2. Add  $\frac{1}{4}$  of this amount to the number (ignore any remainder)
3. Determine if the year is a leap year (use the 4/100/400 rule)
4. Add a month number according to the chart below  
  
January = 1 (0 in a leap year)  
February = 4 (3 in a leap year)  
March = 4  
April = 0  
May = 2  
June = 5  
July = 0  
August = 3  
September = 6  
October = 1  
November = 4  
December = 6
5. Add the number of the day of the month
6. Determine the remainder when the number is divided by 7
7. If the year is greater than or equal to 2000, subtract 1
8. Use the chart below to match the answer with a day  
  
1 = Sunday  
2 = Monday  
3 = Tuesday  
4 = Wednesday  
5 = Thursday  
6 = Friday  
0 = Saturday

## Weekday Example

September 3, 1939 (outbreak of World War II)

Last two digits of year are 39.

$\frac{1}{4}$  of 39 is 9.75 (ignore the remainder part) so add 9.

The month is September, so add 6.

The day of month is the 3rd, so add 3.

The resulting number is 57.

The remainder when 57 is divided by 7 is 1.

From the chart, 1 corresponds to Sunday .

## Perpetual Calendar

In order for you to verify the days of the week a date falls on, you can check the perpetual calendar on the following page.



# Astrology

Please fill out all the information in this column using a pen before getting this assignment marked.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Class

## Academic Honesty

The work I am submitting is completely my own creation and has not been copied from anyone else's work. If I have received help on this project, the names of those who have assisted are listed below.

\_\_\_\_\_  
Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Pre-Marking

The following people have pre-marked this assignment: (minimum of two)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Deductions

Each  which is checked indicates the item was not satisfactory and results in the loss of one mark.

Deduction for late assignment is 1 mark per day.

Deduction for program crashing is 2 marks.

## User Interface

- Appropriate Text in Title Bar (Form.Text)
- Separators and Access Keys in Menu, Capitalization
- "Exit" DialogBox meets requirements
- "About" DialogBox meets requirements
- Efficient and Esthetically-Pleasing User Interface
- Appropriate controls are used
- Spelling and Grammar are correct

## Code / Programming Style

- Variables are declared and logically named
- Code is commented where appropriate
- Code is indented and spaced to show
- Code is efficient

## Work Ethic / Problem Solving Skills

- Problem Solving Skills are demonstrated
- Makes Productive Use of Time
- Only Seeks Help when Necessary

## Program-Specific Criteria

- Program allows easy selection of date
- Non-existing dates cannot be selected (ie. April 31)
- Feb. 29 can only be selected on a leap years

One mark will be deducted for each test date which does not work. Test dates will not be provided to students before marking.

## Comments

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Mark \_\_\_\_\_ / 10