1. （質數）請撰寫一個程式，計算並印出從1到100之間所有質數。
2. （印出三角形的程式）請為下列各圖形撰寫一個程式，印出每一項中的圖案。請利用for迴圈來產生圖案。所有的星號(\*)都必須以格式如printf(“%s” , "\*");之printf敘述式來列印（所以星號會一個接著一個地印出來）。（提示：圖 C與D 兩個花樣必須以適當個空格當成開頭。）



1. （計算銷售額）某家網路零售商販售五種不同的產品，每一種產品的零售價如下表所示：

|  |  |
| --- | --- |
| **產品編號** | **零售價** |
| 1 | $2.98 |
| 2 | $4.50 |
| 3 | $9.98 |
| 4 | $4.49 |
| 5 | $6.87 |

請撰寫一個程式要求會計人員輸入如下的兩個數：

a) 產品編號

b) 一天之內的銷售量

你的程式需要應用switch敘述式來判斷每一項產品的零售價。此程式須計算並顯示上週賣出產品的總獲利。

1. （印出菱形）撰寫一個程式印出如下的菱形。你只能使用printf敘述式印出一個空白或一個星號。請盡量加大循環的次數（使用巢狀的for敘述式），並盡量減少printf敘述式的數目。



1. ***(Prime Numbers)*** Write a program to calculate and print a list of all prime numbers from 1 to 100.
2. ***(Triangle Printing Program)*** Write a program that prints the following patterns separately. Use for loops to generate the pattern. All asterisks (\*) should be printed by a single printf statement of the form printt(“\*”) [Hint: The two figures C and D require each line begin with an appropriate number of blanks.]



1. ***(Calculating Sales)*** An online retailer sells five different products whose retail prices are shown in the following table:

|  |  |
| --- | --- |
| **Product Number** | **Retail Price** |
| 1 | $2.98 |
| 2 | $4.50 |
| 3 | $9.98 |
| 4 | $4.49 |
| 5 | $6.87 |

Write a program that reads a series of pairs of numbers as follows:

a) Product number

b) Quantity sold for one day

Your program should use a switch statement to help determine the retail price for each product. Your program should calculate and display the total retail value of all products sold last week.

1. ***(Diamond Printing Program)*** Write a program that prints the following diamond shape. You may use printf statement that print either a single asterisk (\*) or a single blank. Maximize your use of repetition (with nested for statements) and minimize the number of printf statements.

