1. Determine the value of the following expressions. Assume a *= 5,* b = 2, c = 4, d = 6, and e = 3.
   1. a > b True
   2. a != b True
   3. d % b == c % b True
   4. a \* c != d \* b True
   5. d \* b == c \* e True
   6. a \* b 10
   7. a % b \* c 4
   8. c % b \* a 0
   9. b % c \* a 10
   10. true || false True
   11. 7 > 3 && 5 < 2 False
   12. 5 \* 4 < 20 || false false
   13. 2+3 > 1\*4 && 5/5 == 1 true
2. Determine the value of the following expressions, assuming a =5, b =2, c = 4, and d = 5.
3. a == 5 true
4. b \* d == c \* a false
5. b == d || a == c false
6. a == d || c != b true
7. a == d || c == b true
8. a == d && c != b true
9. d % b \*c > 5 || c % b \* d < 7

true

1. Using parentheses, rewrite the following expressions to correctly indicate their order of evaluation 1 Then evaluate each expression assuming a = 5, b = 2, and c = 4
   1. (a % b) \* c == (c % b) \* a false
   2. (a % b) \* c > (c % b) \* a true
   3. (b % c) \* a >= (a % c) \* b true
   4. (b % c) \* a != (a % c) \* b true
2. Write relational expressions to express the following conditions (use variable names of your own choosing):
3. a person’s age is equal to 30 age ==30
4. a person’s temperature is greater than 98.6 temp>98.6
5. a person’s height is less than 6 feet height<6
6. the current month is 12 (December) month ==12
7. the letter input is m letter ==’m’
8. person’s age is equal to 30 and the person is taller than 6 feet age ==30 && height >6
9. the current day is the 15th day of the 1st month day==15 && month==1
10. a person is older than 50 or has been employed at the company for at least 5 years age>50 || employed >=5
11. a person’s identification number is less than 500 and the person is older than 55 idNum<500 && age >55
12. a length is greater than 2 and less than 3 feet length >2 && length <3
13. age is between 30 and 40 and, including 30 and 40 age >= 30 && age <=40
14. age is less than 30 or greater than 50 age<30 || age >50
15. key is upper or lower cased r key == ‘R’ || key == ‘r’
16. province is 'O' and taxable is 'Y' province == ‘O’ && taxable == ‘Y’
17. age 17 or more and residence is 'Y' age >=17 && residence == ‘Y’
18. position is "Manager" or "Supervisor" position == “Manager” || position == “Supervisor”
19. Write appropriate if statements for each of the following conditions:
20. If angle is equal to 90 degrees print the message “The angle is a right angle” else print the message that “The angle is not a right angle”. If (angle==90)

Console.WriteLine(“The angle is a right angle”);

Else Console.WriteLine(“The angle is not a right angle”);

1. If the temperature is above 100 degrees display the message “above the boiling point of water”, else display the message “below the boiling point of water”!

If (temp >100)

Console.WriteLine(“above the boiling point of water”);

Else Console.WriteLine(“below the boiling point of water”);

1. If a student’s score is less than 70, print the message “Fail” otherwise print “Pass”

If (score <70)

Console.WriteLine(“Fail”);

Else Console.WriteLine(“Pass”);

1. If temperature is between 98.2 and 100.2, print "Normal" otherwise print "Not Normal"

If (temperature >=98.2 && temperature <=100.2)

Console.WriteLine(“Normal”);

Else Console.WriteLine(“Not Normal”);

1. If the number is positive, then add the number to positiveSum else add the number to negativeSun.

If (number>=0)

positiveSum += number;

else negativeSum+=number;

1. If the slope is less than .5 set the variable flag to zero, else set flag to one1

if (slope <0.5)

flag =0;

else flag = 1;

1. If the difference between num1 and num2 is less than .001, set the variable approx to zero, else calculate approx as the quantity (num1 - num2) /2 .0.

If ((num1 – num2) <0.001)

approx =0;

else approx = (num1 – num2)/2.0;

1. If the difference between temp1 and temp2 exceeds 2.3 degrees, calculate error as (temp1 - temp2) \* factor

If ((temp1 – temp2)>2.3)

error = (temp1-temp2)\*factor;

1. If x is greater than y and z is less than 20, read in a value for the integer p.

If (x>y && z<20)

P = Convert.ToInt32(Console.ReadLine());

1. If distance is greater than 20 and it s less than 35, read in a value for the integer variable time

If (distance >20 && distance <35)

Time = Convert.ToInt32(Console.ReadLine());

1. If hours is less than 40 wages = 8 \* hours, otherwise wages = 320 + (hour – 40) \* 12

If (hours < 40)

Wages = 8\* hours;

Else wages = 320 + (hour – 40)\*12;

1. If shape is "R" area is 4 \* length, if shape is "C" area is PI \* length \* length, and if shape is "T" area is 0.433\* length \* length

If (shape == “R”)

Area = 4\* length;

Else if (shape == “C”)

Area = pi \* length \* length;

Else if (shape == “T”)

Area = 0.433 \* length \* length;

Answer the following question without actually coding in Visual Studio™

* 1. If money is left in a particular bank for more than 5 years, the interest rate given by the bank is 7.5%, else the interest rate is 5.4%. Write a program that prompt the user for the number of years that the money was left in the bank and display the appropriate interest rate depending on the value input.
  2. How many runs should you make for the program written in the first part to verify that it is operation correctly? What data should you input in each of the program runs

Two runs, Data : 4 , 6

1. In a pass/fail course, a student passes if the grade is greater than or equal to 70 and fails if the grade is lower. Write a C# program that accepts a grade and then prints the message "A passing grade" or "A failing grade", as appropriate
2. How many runs should you make for the program written in Exercise 4a to verify that it is operating correctly? What data should you input in each of the program runs?

Three runs, data : 70, 71, 69

1. Write a C# program to compute and display a person’s weekly salary as determined by the following expressions:   
   If the hours worked are less than or equal to 40, the person receives $8.00 per hour; else the person receives $320.00 plus $12.00 for each hour worked over 40 hours.   
   The program should request the hours worked as input and should display the inputs as well as the computed salary.
2. How many runs should you make for the program written in Exercise 5a to verify that it is operating correctly? What data should you input in each of the program runs?

Three runs, data: 40,41,39

1. A senior salesperson is paid $400 a week and a junior salesperson $275 a week. Write a C# program that accepts as input a salesperson’s status in the character variable status, if status equals ‘S’, the senior person’s salary should be displayed, else the junior person’s salary should be output.
2. How many runs should you make for the program written in Exercise 6a to verify that it is operating correctly? What data should you input in each of the program runs?

Two runs, data: ‘S’, ‘D’

1. Write a C# program that displays either the message "I feel great today!" or "I feel down today #$ \*!" depending on the input. If the character "u" is entered, the first message should be displayed; else the second message should be displayed.
2. How many runs should you make for the program written in Exercise 7a to verify that it is operating correctly? What data should you input in each of the program runs?

Two runs, data: ‘u’, ‘p’

1. Write a C# program to display the following two prompts:   
     
   Enter a month (use a 1 for Jan, etc.):   
   Enter a day of the month:   
     
   Have your program accept and store a number in the variable month in response to the first prompt, and accept and store a number in the variable day in response to the second prompt.   
   If the month entered is not between I and 12 inclusive, print a message informing the user that an invalid month has been entered. If the day entered is not between I and 31, print a message informing the user that an invalid day has been entered.
2. What will your program do if the user types a number with a decimal point for the month? How can you insure that your if-statements check for an integer number?

Declare day and month as integers, and and program will round any decimal number to an integer.