

## Problem Solving to Sequence Control Structures Test Revision

1. Which of the following is NOT a data type in C?  
(A) float      (B) int      (C) real      (D) double
2. Identify the CORRECT C statement  
(A) Printf("The percentage is %f",percent);      (B) printf("The percentage is %f",percent);  
(C) printf("The percentage is %f, percent");      (D) printf("The percentage is %f",percent);
3. An example of good programming style is  
(A) indenting the code      (B) writing programs in C and not Pascal  
(C) avoid writing structure programs      (D) using one letter variable names
4. The first three steps in the problem solving process are  
(A) define the problem, find several solutions, analyze the solutions  
(B) define the problem, find several solutions, justify and select a solution  
(C) define the problem, analyze the problem, find several solutions  
(D) define the problem, select and justify a solution, implement the solution
5. Which of the following is NOT a way to express an algorithm?  
(A) C code      (B) flowchart      (C) narrative      (D) pseudocode
6. The below C statements contain errors. Write the correct statements.  
(a)    printf("Please enter two numbers);  
(b)    sum := x+y;  
(c)    scanf("%d",x);
7. (a) Draw a flowchart to do the following tasks:
  1. read a number x
  2. multiply the number by 10 and store the result in y
  3. subtract 5 from y and store the result in z
  4. print y ,z(b) What is printed when x = 5?  
(c) Write the narrative for the flowchart  
(d) Write the pseudocode for the flowchart  
(e) Write the C program for the flowchart
8. Write the C operators for each of the following:  
(a) Remainder (b) Logical AND      (c) Logical OR      (d) Equal to      (e) Not equal to

9. Children under the age of 12 are charged \$15.00 as the entrance to a concert all other persons pay \$20.00.

(a) Draw the flowchart to read the age of a person and print the charged based on the person's age.

(b) Convert the flowchart to a C program.

10. A student is promoted if his average is above 50% and the student has passed five subjects or more.

(a) Write the pseudocode to read the student's average and the number of subjects passed. Determine and print whether or not the student is promoted.

(b) Convert the pseudocode to a C program.

11. Parents are allowed an income tax deduction based on the number of children, see below

Number of Children	Tax Deduction
0	1.5% of salary
1	3.5% of salary
2	5.5% of salary
Over 2	8.5% of salary

Using the switch operator, write a program to read the salary and the number of children a parent has. The program should determine and print the income tax deduction.