INSTRUCTIONS: Place the letter representing the correct single letter choice on the answer sheet (A or B or C, etc...). Only one letter choice per answer.

1. In programming, an object has to be declared when
   A. Before use
   B. automatically
   C. implicitly
   D. when used

A. Container
B. Data Type
C. Name
D. Value
E. Address
F. Scope

Illustration 1: Object Properties

2. Which object property determines what sections of a program can have access to the object elements

3. Which object property is used to represent data or calculate numeric results in programmatic methods

4. Which object property is a holder that stores object elements. It also manages the storage space for its elements.

5. Which object property is the specific location in memory where the storage space is located

6. Which object property tells the computer what kind of data to store in them

7. Which object property is an identifier that distinguishes it from the others

8. In programming an object holds? (mark correct answer)
   A. memory
   B. shape
   C. information
   D. dimensions

9. What does the abbreviation IDE stand for?
   A. Integrated Development Environment
   B. Integrated Development Editor
   C. Integrated Detailing Environment
   D. Interactive Development Environment

10. In programming, when an object is declared what happens?
    A. consumes and copies
    B. defines and creates
    C. creates and copies
    D. copies and consumes

A) editor
B) compiler
C) assembler
D) linker
E) loader
F) debugger

Illustration 2:

11. What IDE function (choose item from Illustration 2) allows developing source code?

12. What IDE function (choose item from Illustration 2) converts machine instructions to binary code understood by the computer?

13. What IDE function (choose item from Illustration 2) combines libraries with a program you write?

14. What IDE function (choose item from Illustration 2) converts high level language source code to machine specific code?

15. What IDE function (choose item from Illustration 2) combines dynamic run-time libraries with your program to enable it to execute?

16. What source file is automatically created by the IDE when a “Hello World” console project is created?
    A. main
    B. main.c
    C. source.c
    D. helloworld.c

17. Why does IDE have to create a project folder?
    A. Hold source files
    B. Hold system includes
    C. Hold compiler directives
    D. Hold all files

```
1.   /*  Bubble Sort */
2.   #include <stdio.h>
3.   #include <stdlib.h>
4.
5.   #define MAX 10
6.
7.   int a[MAX];
8.   int rand_seed=10;
9.   void bubble_sort(int m);
10.
11.  int main(void)
12.  {
13.      int i;
14.      /* fill array */
15.      for (i=0; i < MAX; i++)
16.      {
17.          a[i]=rand();
18.          printf("%d\n",a[i]);
19.      }
20.      bubble_sort(MAX);
21.      /* print sorted array */
22.      printf("--------------------\n");
23.      for (i=0; i < MAX; i++)
24.          printf("%d\n",a[i]);
25.
26.      return 0;
27.  }
28.
29.
30.  void bubble_sort(int m)
31.  {
32.      int x,y,t;
33.       for (x=0; x < m-1; x++)
34.          for (y=0; y < m-x-1; y++)
35.              if (a[y] > a[y+1])
36.              {
37.                  t=a[y];
38.                  a[y]=a[y+1];
39.                  a[y+1]=t;
40.              }
41.  }
```

Illustration 3:

18. In Illustration 3, which line is the main function declaration?
    A. 1
    B. 8
    C. 9
    D. 11

19. In Illustration 3, which line is the entry point for the program?
    A. 1
    B. 5
    C. 11
    D. 13

20. In Illustration 3, which line is a compiler directive?
    A. 2,3
    B. 7,8
    C. 9,30
    D. 20,30

21. In Illustration 3, which line is the function prototype?
    A. 8
    B. 9
    C. 11
    D. 30

22. In Illustration 3, which line defines the function?
    A. 30
    B. 9
    C. 1
    D. 31

23. In Illustration 3, which line returns a value to the operating system?
    A. 1
    B. 11
    C. 26
    D. 30

24. In Illustration 3, what is the scope (give the line numbers) for the object named x?
    A. 1-41
    B. 32
    C. 33,40
    D. 31-41

25. In Illustration 3, what is the scope (give the line numbers) for the if statement on line 35?
    A. 1-41
    B. 36-40
    C. 30-40
    D. 35

26. In Illustration 3, what is the scope for the variable **rand_seed**?
    A. local
    B. lines 12-27
    C. global
    D. lines 31-41

27. In Illustration 3, which line declares the value used for MAX?
    A. 15
    B. 20
    C. 23
    D. 5

28. In Illustration 3, which line declares objects x, y, t?
    A. 30
    B. 32
    C. 33 & 34
    D. 37-39

29. In Illustration 3, what data type is returned to the operating system?
    A. 0
    B. int
    C. 10
    D. MAX

30. In Illustration 3, line 20, uses parenthesis "()" to do what?
    A. Main block of code
    B. Array
    C. System header file
    D. Calling arguments

31. In Illustration 3, line 2 uses the carats "<>" to signify what?
    A. Main block of code
    B. Array
    C. System header file
    D. Calling arguments

32. In Illustration 3, line 7, the square brackets "[]" are used to denote what?
    A. Main block of code
    B. Array
    C. System header file
    D. Calling arguments

33. In Illustration 3, lines 12 and 27 use the braces "{}" to define what?
    A. Main block of code
    B. Array
    C. System header file
    D. Calling arguments

34. In Illustration 3 which line is a classic C language comment?
    A. 22
    B. 30
    C. 20
    D. 21

35. In Illustration 3, line 2 which folder is the stdio.h file stored in?
    A. user folder
    B. source folder
    C. compiler include directory
    D. user include directory

```
x = 10;
```

Illustration 4:

36. In Illustration 4 how many expressions are included in the statement?
    A. 1
    B. 2
    C. 3
    D. 4

37. In Illustration 4 how many objects are used?
    A. 1
    B. 2
    C. 3
    D. 4

38. In Illustration 4 what makes the line a statement?
    A. new line
    B. white space
    C. equal sign
    D. semicolon

39. In Illustration 4 what type of operator is used?
    A. copy
    B. replacement
    C. movement
    D. assignment

40. In Illustration 4 what does the operator do (mark correct answer)?
    A. copy
    B. move
    C. increment
    D. evaluate