## CS 161 Exam I Winter 2018 FORM 1

Please put your name and form number on the scantron.

## True (A)/False (B) (28 pts, 2 pts each)

1. A variable that can hold a whole number is called an integer.

2. Errors in a program can be classified into three types: logic, syntax, and operator.
3. The following will successfully compile: cout $\ll$ "Good luck on the exam",'
4. The compiler will catch Synd ax programming mistakes. $F$
5. The body of a do while loop is never guaranteed to execute.
6. The integer 0 is considered trade.

ใ. Four on onion
7. Conditionals are used when we need our program to make a choice turneonemoremer nits.
8. Variable names may begin with a number.
9. if-else statements that are inside other if-else statements are said to be nested
10. A break statement in a switch stops the pitch.

11. The code following the default case is executed if none of the other cases are matched in a switch statement. $T$
12. The types of parameters are optional in the function declaration. void fun
13. It is possible to have a function with no parameters.
14. Functions may have multiple return statements.

## Multiple Choice (72 pts, $\mathbf{3}$ pts each)

15. What punctuation indicates the end of a $\mathrm{C}++$ statement?
a. A semicolon (;)
b. A period (.)
c. A colon (: )
d. A question mark (?)
int fun $(\operatorname{sint} x)$ \{

$$
\begin{aligned}
& \text { if }(x>0) \\
& \text { return; } \\
& \text { Rise return 0; }
\end{aligned}
$$

16. int number;
a. is an output statement
b. is an input statement
c. is a variable declaration
d. is a program
17. Given the following code fragment and the input value of 2.0 , what output is generated?
float tax;
float total;
court << "enter the cost of the item \n"; 2.0
in >> total;
2.0
if (total $>=3.0)$
$\operatorname{tax}=0.10 ;$
$\operatorname{cout} \ll$ total $+($ total $* \operatorname{tax}) \ll$ end l $; ~$ court << total \ll end;
\}
a. 2.2
(b.) 2.0
c. 3.1
d. 4.4
18. Which of the following best describes an operator?
a. An operator is a rule that must be followed when constructing a program.
b. An operator allows you to perform operations on one or more pieces of data.
c. An operator marks the beginning or ending of a statement or is used to separate items in a list.
d. An operator is a word that has a special meaning.
19. Which step uncovers any syntax errors in your program?
a. Editing
b. Compiling
c. Linking
d. Executing
20. What is the correct conditional statement to determine if x is between 19 and 99 ?
a. $\quad(x<19 \& \& x>99)$
b. $(x<19 \| x>99)$
c. $(x>19 \& \& x<99)$
d. $(x>19 \| x<99) T$
21. Which of the following is not a valid identifier?
a. myInt - Java
b. myInteger
c. return

d. my_integer

$$
C / C+t
$$

22. What is the value of $x$ after the following statements?

$$
\text { int } \mathrm{x} \text {; }
$$

$$
x=x+30
$$

a. 0
b. 30
c. 33
d. Garbage
23. Which of the following statements is NOT legal?
a. char ch $=$ ' $b$ '.
b. char ch $=$ ' 0 ':
c. char ch $=65 ;$
d. $\mathrm{char} \mathrm{ch}=\mathrm{CC}$;
24. What is the value of $x$ after the following statements?
float x ;
$x=3 / 2$;
a. 1.5
b. 3.0
(c) 1.0
d. 6.0
25. Given the following code fragment, which of the following expressions is always true?
int x ;
in >> ;
a. if $(x<3)$
b. if $(x==1)$
c. if $((x / 3)>1)$
d. if $(x=1)$
26. Which of the following is not a good reason for choosing a certain loop control?
a. What the loop does
b. The minimum number of iterations of the loop
2. The condition for ending the loop
d. If the loop is in a function
27. The $\qquad$ describes how the function will work.

28. Given the following code, what is the final value of i ?

\}

a. 3
b. 4
(c.) 5
d. 0
29. If you need to write a do-while loop that will ask the user to enter a number between 2 and 5 inclusive, and will keep asking until the user enters a correct number, what is the loop condition?
a. $\quad(2<=n u m<=5)$
b. $(2<5<$ number $)$
c. $(2<=$ number $\& \&$ number $<=5)$
d. $(2$ < number $\|$ number > 5)
$V^{30}$. What is wrong with the following for loop? for (int $\mathrm{i}=0$; $\mathrm{i}<10$; $\mathrm{i}-$ - $\{$
scout << "Hell on";
\}

a. can not use a for-loop for this
b. i is not initialized
c. infinite loop
d. off-by-one error
31. What is the value returned by the following function?
int function()
\{

$$
\text { int value }=35 \text {; }
$$

return value +5 ;

a. 35
b. 40
c. 50
d. 10
32. Multiple arguments to a function are separated by
a. comments
b. semicolons
c. colons
d. commas
33. If you need to write a function that will compute the cost of some candy, where each piece costs 25 cents, which would be an appropriate function declaration?
a. int calculateCost(char name);
b. char calculate Cost(int count);
c. int calculate Cost int count;
d. Int calculateCost(int count);
34. If you have the following variable declaration in your program,
cost int SIZE =34;
then which of the following statements are legal?
a. SIZE ++;
b. $x=$ SIZE - -;
lout << SIZE; •
d. sin >> SIZE;
35. When a variable is assigned a number that is too large for its data type, it
a. Underflows
b. Overflows
c. Reverses
d. Converts
36. Which statement is equivalent to the following?

$$
\text { number += } 1 \text {; }
$$

a. number $=$ number -1 ;
b. number $=$ number +1 ;
c. number $=1$;
d. number $=+1$;
37. Which of the following statements will read an entire line of input into the string object, address?
a. in << address;
b. con address;
c. cin.get (address);
d. getline (in, address);
38. To use the rand() function, you must include the $\qquad$ header file?
a. $\&$ stdlib stalib.h
b. string
c. iostream
d. cath

