

The University of Alabama in Huntsville
ECE Department
CPE 197 01
Spring 2001
Sample Test IV
April 8, 2001

1) (8 points) Rewrite the following code fragment using a `switch` statement.

```
if (n == 3)
    alpha++;
else if (n == 7)
    beta++;
else if (n == 10)
    gamma++;
```

2) (6 points) Rewrite the following code segment using a `for` loop.

```
sum = 0;
count = 1;
while (count <= 1000)
{
    sum = sum + count;
    count++;
}
```

3) (12 points) Write a program segment that reads and sums until it has summed ten data values or until a negative value is read, whichever comes first. Use a `do-while` loop for your solution.

4) (12 points) What is printed by the following program fragment? (All variables are of type int.)

```
for (i = 4); i >= 1; i--)  
{  
    for (j = i; j >= 1; j--)  
        cout << j \ ' '  
    cout << i << endl;  
}
```

5) (12 points) Write a value-returning function that accepts two int parameters, base and exponent, and returns the value of base raised to the exponent power. Use a for loop in your solution.,

6) (8 points) Declare an enumeration type named AutoMakes, consisting of the names of five of your favorite car manufacturers.

7) (2 points) _____ (True or False) Every C++ compiler guarantees that sizeof(int) < sizeof(long).

8) (2 points) Given the type declaration

```
enum Agents (SMITH, JONES, GRANT, WHITE);
```

does the expression `JONES > GRANT` have the value `true` or `false`?

9) (8 points) Given the following declarations,

```
enum Perfumes (POISON, DIOR_ESSENCE, CHANEL_NO_5, COTY);  
Perfumes sample;
```

indicate whether each statement below is valid or invalid.

- a. _____ `sample = POISON;`
- b. _____ `sample = 3;`
- c. _____ `sample++;`
- d. _____ `sample = Perfumes(sample + 1);`

10) (12 points) Write a while loop that copies all the characters (including whitespace characters) from an input file stream `inFile` to an output file stream `outFile`, except that every lowercase letter is converted to uppercase. Assume that both files have been opened successfully before the loop begins. The loop should terminate when end-of-file is detected.

- 11) (16 points) a. (4 points) Declare an enumeration type for the work days of the week. (Monday through Friday).
b. (12 points) Write a value-returning function that converts the first two letters of a work day into the type declared in part a.

12) (2 points) Name two of the five C++ integral simple types.
