

The **SAMPLE** final of CS 135, Fall 2020

Name: _____

Student ID: _____

1. (1 point each) True or false.
 - (1) A class is a blueprint from where objects are made.
 - (2) Methods in a subclass can access private data members in a superclass without going through provided setters or getters.
 - (3) Suppose Hare is a subclass of Animal class. Then for any method takes a Hare object, we can pass an Animal object.
2. (2 points each) Choose the best solution for a multiple-choice problem.
 - (1) Given `int arr[][2] = { {0, 1}, {2, 3} {4, 5} }, arr[1][1]`?
 - (A) 0
 - (B) 1
 - (C) 2
 - (D) 3
 - (2) Given `vector<int> vect(2);` what is the value of `vect.size()`?
 - (A) 0
 - (B) 1
 - (C) 2
 - (D) 3
 - (3) Suppose Hare class is inherited from Animal class. What is the proper head?
 - (A) `class Hare`
 - (B) `class Hare : Animal`
 - (C) `class Hare : public Animal`
 - (D) `class Animal : public Hare`
3. (5 point each) Answer the following short answer questions.

Suppose we want to define a method to swap the values of a and b. That is, suppose `int x = 1; int y = 2;` After `swap(x, y)`, variable x is 2 and y is 1.

```
swap(int m, int n)
{
    m = n;
    n = m;
}
```

4. (5 points) **Define a function**, for a given array of strings, return one with maximum number of characters. If there are several string having the same maximum number of characters, return the first one (the one with minimum index).
5. (10 points) Define class TV, which has data member brand (a string), and size (an int).
 - (1) (5 points) Define the default constructor of TV, which sets brand to be “LG”, and size to be 50.
 - (2) (5 points) Define getSize method.