

AP COMPUTER quiz4

1. Consider the following code:

```
int j = 0;
String s = "map";
while (j < s.length()) {
    int k = s.length();
    while (k > j) {
        System.out.println(s.substring(j, k));
        k--;
    }
    j++;
}
```

- (A) map
ma
m
ap
a
- (B) map
ma
m
ap
a
p
- (C) map
ap
p
ap
p
p
- (D) m
ma
map
a
ap
p
- (E) p
ap
p
map
ma
m

2. A factorial is shown by an exclamation point(!) following a number. The factorial of 5 or 5! is calculated by $(5)(4)(3)(2)(1)=120$.

Assuming n is an integer greater than 1. Choose the method that will return n!

```
I. public static int f(int n) {  
    int factorial = 1;  
    for (int i = n; i > 0; i--) {  
        factorial *= i;  
    }  
    return factorial;  
}  
  
II. public static int f(int n) {  
    int factorial = 1;  
    int j = 1;  
    while (j <= n) {  
        factorial *= j;  
        j++;  
    }  
    return factorial;  
}  
  
III. public static int f(int n) {  
    if (n == 1)  
        return n;  
    return n * f(n - 1);  
}
```

- (A) I only
- (B) II only
- (C) II only
- (D) II and III only
- (E) I, II and III

3. Given the following code excerpt for the Tile Class:

```
public class Tile {  
    private int styleNumber;  
    private String color;  
    private double width;  
    private double height;  
    private String material;  
    private double price;  
  
    Tile(int style, String col){  
        styleNumber = style;  
        color = col;  
    }  
  
    Tile(int style, String col, double w, double h, String mat, double
```

```
price){
    styleNumber = style;
    color = col;
    width = w;
    height = h;
    material = mat;
    price =price;
}

Tile(int style, String col, String mat, double price){
    styleNumber = style;
    color = col;
    material = mat;
    price =price;
}

public void chgMaterial(String mat) {
    String material = mat;
}

public String toString() {
    return (styleNumber + " " + color + " " + width + " " + height + " "
+ material + " " + price);
}
```

What is the output after the following client code is executed?

```
Tile t1 = new Tile(785, "grey", "ceramic", 6.95);
t1.chgMaterial("marble");
System.out.println(t1.toString());
```

- (A) Tile@5ccd43c2
- (B) 785 grey 0.0 0.0 marble 0.0
- (C) 785 grey 0.0 0.0 ceramic 0.0
- (D) 785 grey 0.0 0.0 ceramic 6.95
- (E) 785 grey 0.0 0.0 marble 6.95

4. What is the output after the following client code is executed?

```
Tile t2 = new Tile(101, "blue");
System.out.print(t2);
```

- (A) Tile@5ccd43c2
- (B) 101 blue 0.0 0.0 null 0.0
- (C) Type mismatch error

- (D) NullPointerException
- (E) There will be no output; the program will not compile

5. The Tile Class is going to be used for an application built for a small independent tile store. The owner wants the programmer to add a field for the number of unopened boxes of tile he has for each style of tile he has in stock and a method to change the value. What would be the proper declaration for this field?

- (A) `public static int inventory;`
- (B) `private static double inventory;`
- (C) `final int inventory;`
- (D) `private int inventory;`
- (E) `private int [] inventory;`