**Problem Set 1, Part I**

1. Select *File->Make a copy…* and save a copy of this template to your Google Drive using the name ps1\_partI.
2. Put your answers for Part I in the appropriate locations below.
3. Once you are done with Part I, choose *File->Download->PDF*, and save the file on your machine. The resulting PDF file (ps1\_partI.pdf) is the one that you will ultimately submit.

**Problem 1: Learning to Read (Java) code**

**1-1)**

a) a==b

b) a<b

c) a>b

d) a<=b

e) a>b

**1-2)**

a) No Error

b) Error

c) No Error

**1-3)**

a) 2bc

b) 5bc

c) 5bc

d) bc5

e) bc23

**Problem 2: Java programming basics**

**2-1)**

**图形用户界面, 文本, 应用程序

描述已自动生成**

**2-2)**

a) 17

b) “15g”

c) 17.0

d) 7

e) 7.5

f) 7.5

g) 0

h) 0

i) “112”

j) “22”

**Problem 3: Conditional execution**

**3-1)**

a)

diamond

pearl

done

b)

ruby

pearl

done

c)

diamond

pearl

done

d)

sliver

done

e)

penny

nickel

done

f)

diamond

pearl

done

**3-2)**

System.out.println("copper");

Combining b>=c and a<b, we will get a<b anyway, so the program will go to the first outer if (a <= b) {} instead.

System.out.println("dime");

Combining b>=c and a<c, we get a<c<=b, which means a<b, so the program will go to the first outer if (a <= b) {} instead.

System.out.println("dime");

when a==b, the program will go to the first outer if (a <= b) {} instead.

**Problem 4: Static methods**

**4-1**

variables that belong to main()

|  |  |
| --- | --- |
| **a** | **b** |
| 5 | 4 |
| 3 | 4 |
| 3 | 7 |
| 2 |  |

a = callMe(a, b);

b = 2 \* callMe(b, a) + 1;

System.out.println(callMe(a, a));

variables that belong to callMe()

|  |  |
| --- | --- |
| **a** | **b** |
| 5 | 4 |
| 3 | 2 |
| 4 | 3 |
| 3 | 1 |
| 3 | 3 |
| 2 | 1 |

callMe(a, b)

callMe(b, a)

callMe(a, a))

output (the lines printed by the program)

5 4

3 2

3 4

3 1

3 7

2 1

2

3 7

**4-2)**

public static float average(float a, float b) {

float avg = (a + b) / 2;

return avg;

}

**Problem 5: Loops**

**5-1)**

for ( int i=1 ; i<=42 ; i++ ) {

System.out.println("I feel loopy!");

}

**5-2)**

int i = 5;

while (i <= 30) {

System.out.println(i);

i = i + 5;

}

**5-3)**

for (int i = 0; i <= 3; i++) {

for (int j = i; j >= 0; j--) {

System.out.println(i + " " + j);

}

System.out.println("--");

}

**Problem 6: Variable scope**

1) a b

2) a b i

3) a b c i j

4) a b

5) x

6) x y