Questions and answers from JP2 Quick Survey 2020 – Week 3

1. Assume the code below, to declare variables, has been executed. What would be the value after executing each of the following expressions of Java code?

```java
String a="prior";
String b="work";
int c=5;
int d=2;
int[] len={4,4,5};
int[] can={4,4,5};
```

a. System.out.println(len==can);

    false

b. System.out.println(a+b);

    "priorwork"

c. System.out.println(a+c);

    "prior5"

d. System.out.println(b*d);

    Error

e. System.out.println(c/d*10);

    40

f. System.out.println((c+d)*c);

    35

2. What will be the value of 'sum' after the following code fragment is executed?

```java
int sum = 0;
int i = 0;
while (i < 3)
  {
     sum = sum + i;
     i++;
  }
```

sum = 6

3. Consider the following code fragment. What will be printed after executing
   `System.out.println(map(7, "hello"));`

```java
public static int map (int g, String s)
  {
      s = "Morning";
      int a=g+3;
      can();
      return a;
  }

public static void can()
  {
      int a=3;
      String var = "Night";
      System.out.println(a + " "+ var);
  }
```

"3 Night"
"10"

4. Consider the following Java program to answer the following question. What are the values stored in the locations that f1 and f2 reference after executing:
   a. - line1
   b. - line2
   c. - line3

```java
public class toya {
    int sweets;
    String n;

    public toya (String nam, int sweets1) {
        this.n=nam;
        this.sweets=sweets1;
    }
    public static void main(String args[]) {
        toya f1=new toya("Neo", 15);
        toya f2=new toya("Mpho", 15);
        f1.maya(10);       // line1
        f1=f2;             // line2
        f1.roko(5);        // line3
    }
    public int maya(int a) {
        sweets=sweets-a;
        return sweets;
    }
    public int roko(int b) {
        sweets=sweets+b;
        return sweets;
    }
}
```

5. What will be the output of the following program fragment?

```
for (int i=0; i<2; i++) {
    int b=2;
}
System.out.println(b);
```

Error (b is out of scope after the for loop)

6. What will be the output of the following program fragment?

```
String x;
x="he";
x=3;
System.out.println (x);
```

Error (can't assign an int to a variable of type String)

7. Assume the code below, to declare variables, has been executed. What would be the value after executing each of the following expressions of Python code.

```
a="good"
b="morning"
c=5
d=2
e=2.0
len=[4,4,5]
can=[4,4,5]
```

    a. `print (a+b)`
       "goodmorning"

    b. `print ((c+d)*c)`
       35

    c. `print (a+c)`
       Error – can't use "+" on a string and a number

    d. `print (c/d*10)`
       25.0

    e. `print (b*d)`
       "morningmorning"

    f. `print (len == can)`
       true

8. What would be the output of the following program after it is executed?

```
sum = 0
i = 0
while i < 3:
    sum=sum+i
    i += 1
print(sum)
```

3

9. Consider the following code fragment, what will be printed after executing
```
print (map(3,4))
```
?

```
def map(g,s):
    s = "Morning"
    a=g+3
    can()
    return a;
def can():
    a=3;
    var = "Night"
    print(var)
```

"Night"
6

10.   What is the output of the following program fragment?

```
a=10.5
a="day"
print (a)
```

"day"

11.   What is the output of the following program fragment?

```
for i in range(2):
    a=2
print (a)
```

2

12. What is the output of the following program fragment?

```
x1 = {'name':'Alex', 'age': 33}
x2 = {'name':'Bec', 'age': 12}
print(x1['age'])
print(x2['age'])
x1=x2
x2['age']=x2['age']+1
print(x1['age'])
print(x2['age'])
```

33
12
13
13