



# AP Computer Science A (Advanced Programming in Java) 4545

## Readiness Assessment Test

Thank you for considering this course for your student. Here are some tips for success in the Readiness Assessment process.

- Please do not provide your student this assessment or its contents until you are ready for him or her to complete it in a single sitting with no books, notes, or outside help. It is intended to be a spot check of retained knowledge and skill.
- Make sure you have the latest version of this assessment. Ideally, please download it and have your student complete it within one week prior to enrollment.
- Completed Readiness Assessment materials for a course should be submitted immediately after you enroll in the course.
- **Readiness Assessment materials must be submitted by uploading from the Family Account in the Enrolled Courses view.** Readiness Assessment materials are not accepted through email.
- Visit Live Chat, or email TPS Support ([support@pottersschool.org](mailto:support@pottersschool.org)) for questions or assistance.

## **Part I: Academic Background** (to be completed by the parent)

### **Age/Grade**

1. How old will your student be as of **October 1<sup>st</sup>** of the academic enrollment year?
2. What grade will your student be in **at the start of this course**?

### **Related Coursework**

1. Please provide the title of the most recently completed (or in-progress) courses in the same subject area or related subject areas that might help assess academic readiness for this course (Algebra or higher and Programming in Java preferred):

Course Name (Algebra or higher course):

- a. What is the student's in-progress or final course grade (numeric grade if available)?
- b. What is the name of the course provider (e.g., online provider, taught at home, local college)?
- c. What is the name of the course curriculum (title and name of publisher of primary text if known)?
- d. Is the student on-track to complete the entire course/curriculum by the end of the current year (if in-progress)?
- e. How is the course evaluated? Is the work self-checked, parent-checked, or evaluated outside the home?
- f. What percentage (if any) of the student's grade is based on assessments that are completed without access to notes or outside resources and completed in a single sitting without the opportunity for rework to improve the grade?

Course Name (Programming in Java or related course):

- a. What is the student's in-progress or final course grade (numeric grade if available)?
- b. What is the name of the course provider (e.g., online provider, taught at home, local college)?
- c. What is the name of the course curriculum (title and name of publisher of primary text if known)?
- d. Is the student on-track to complete the entire course/curriculum by the end of the current year (if in-progress)?
- e. How is the course evaluated? Is the work self-checked, parent-checked, or evaluated outside the home?
- f. What percentage (if any) of the student's grade is based on assessments that are completed without access to notes or outside resources and completed in a single sitting without the opportunity for rework to improve the grade?

## Additional Background

1. Is your student's first language English or a different language? If different, what is his or her language background? (**Note:** Most TPS classes are designed for native English speakers, but we also provide support at several levels for students whose first language is not English.)
2. Is there additional information that might help us better know your student and understand his or her unique abilities and needs for the best course placement and academic outcome?

## Part II: AP Questionnaire (to be completed by the student)

TPS wants to help each AP student achieve his or her individual AP exam goals. The following information allows us to better support you in accomplishing your goals.

1. Are you planning to take the AP exam associated with this course?
2. If you are planning to take the associated AP exam, what is your score goal?

**How do I decide my score goal?** AP exams are scored as 1-5, where scores of 4 or 5 are competitive and a scores of 3, 4, or 5 may receive credit from participating colleges. To see what credit is available from specific colleges for specific exam scores, please go to this site:

<https://apstudents.collegeboard.org/getting-credit-placement/search-policies>

3. If you are planning to take the associated AP exam, have you identified an exam site that offers this exam near you?

### Part III: Readiness Test (to be completed by the student)

1. Of the following variable declarations, which one is valid and is easy for programmers to use?

(A) *double 5dollars = 900.0;*  
(B) *int #numbers = 10;*  
(C) *int x = 0;*  
(D) *String studentName = "";*  
(E) *int theNumberOfFootballGamesAStudentWonInHighSchool = 0;*

2. Calculate the following expressions:

3 / 5 =  
3 % 5 =  
29 / 10 =  
29 % 10 =  
0 % 5 =

3. Calculate the following boolean expressions:

*boolean x = true, y = false;*  
*int a = -7, b = 10;*  
*x && x && y* =  
*x || y || y* =  
*(a == 0)* =  
*(a > 0 && b > 0)* =  
*(a > 0 || b > 0)* =

4. Calculate the following expressions:

| Expression                                    | Result         |
|---|----------------|
| <i>int count = 50;</i><br><i>count += 10;</i> | <i>count =</i> |
| <i>int count = 50;</i><br><i>count -= 5;</i>  | <i>count =</i> |
| <i>int count = 50;</i><br><i>count *= 2;</i>  | <i>count =</i> |
| <i>int count = 50;</i><br><i>count /= 5;</i>  | <i>count =</i> |
| <i>int count = 50;</i><br><i>count % = 4;</i> | <i>count =</i> |

5. Consider the following code segment.

```
int count = 6;
for (int i = 0; i < 6; i++){
    count += i;
}
System.out.println(count);
```

What is the printed as a result of executing the code segment?

- (A) 9  
(B) 19  
(C) 21  
(D) 23  
(E) 15
6. Consider the following statement:  
*int k = x % 35;*  
If *x* is a positive integer, which of the following could NOT be the value of *k* after the statement above executes?
- (A) 0  
(B) 10  
(C) 20  
(D) 30  
(E) 35
7. What is the output after the execution of the following code?
- ```
class myWhileLoop {
    public static void main (String args []){
        int i = 8;
        while ( i > 1){
            System.out.println(i);
            i --;
        }
    }
} // close class
```
8. Implement the method to calculate the average GPA by using for loop.

```
public static void main (String [] args) {
    int [] myGpa = {3.4, 3.5, 5.0, 4.0, 4.5}.
    double mean = 0.0;

    /* to be implemented */

} // close main
```

9. Here is the design of class Student. Write the java code for two constructors, two accessor methods, and two mutator methods .

```
public class Student {
    private String name;
    private double gpa;

    /** Non-argument constructor
     * Makes a Student.
     */
    public Student () {

        /* to be implemented */

    } // close constructor

    /**
     * Constructor with argument
     * Makes a Student.
     * @param newname the student's name
     * @param newGpa the student's gpa.
     */
    public Student (String newName, double newGpa) {

        /* to be implemented */

    } //close constructor

    /**
     * Accessor method
     * Get the student's name
     * @return name
     */
    public String getName () {

        /* to be implemented */

    } //close method

    /**
     * Accessor method
     * Get the student's gpa
     * @return gpa
     */
    public double getGpa () {

        /* to be implemented */

    } //close method
```

```

    /**
    * Mutator method
    * Set the student's name
    */
    public void setName (String newName ) {

        /* to be implemented */

    } //close method


    /**
    * Mutator method
    * Set the student's gpa
    */
    public void setGpa (double newGpa ) {

        /* to be implemented */

    } //close method

} // close class

```

10. Based on the class Student in Question 9, which of the following could be used to make a new Student object called tom?
  - (A) *Student tom = new Student ( );*
  - (B) *tom = new Student ( );*
  - (C) *new student tom = ("Tom", 4.0);*
  - (D) *Student tom = new Student ( "tom");*
  - (E) *new Student (tom);*
  
11. Based on the class Student in Question 9, which of the following could be used in class Teacher to print out the GPA of the student object tom?
  - (A) *System.out.println(tom.gpa );*
  - (B) *System.out.println(getGpa( ) );*
  - (C) *System.out.println(tom.getGpa( ) );*
  - (D) *System.out.println(Student.getGpa( ) );*
  - (E) *System.out.println(getGpa(tom) );*

EOF