

AP CS A

Unit 2. Using Objects. Programs

Programs 1 to 3 can be done after the Rectangle class is covered.

1. In the main method, you create a rectangle whose lower left-hand corner is at (-33, 12) and whose upper right-hand corner is at (-17, 31). Then call the area method and print the returned value.

2. The user enters a width and height and then you create a rectangle with that width and height and located at the origin. Then call the diagonal method and print the returned value.

3. The user enters a pair of coordinates and then you create a rectangle at that location with a width of 7 and height of 4. The user then enters another pair of coordinates. Call the contains method and print the returned value.

Programs 4 and 5 can be done after completing page 3 and the top of page 4 of the notes.

4. Enter a string and print it with the words “Great” before it and an exclamation mark after it.

5. Enter a string and print it with quotes around it.

Programs 6 to 11 can be done after completing pages 4 to 6 of the notes.

6. Enter a string with an odd length and print the middle character.

7. Enter a string with a length of 3 or more with one space somewhere in the middle of the string. In other words, the space cannot be at the front or end of the string. Print the characters that come after the space.

8. Enter a string that has two or more e’s in it. Print the index of the second e. The e’s can be upper or lower case.

9. Enter two strings and print true if they are equal; otherwise print false. However, it should be case-insensitive. In other words, if they enter CAT and cat, it should print true.

10. Enter a string and print true if the last character is the same as the first character; otherwise print false. This should be case-sensitive.

11. Enter two strings, a and b, and have string a call the compareTo method with string b as the parameter. Print out the returned value.

Programs 12 to 17 can be done after completing pages 7 and 8 of the notes.

12. The user enters the lengths of the legs of a right triangle and the program calculates the hypotenuse.

13. The user enters the area of a square and the program calculates the length of its side as an integer. Must cast.

14. The user enters two integers and the program displays the distance between two integers.

15. The user enters two numbers, a and b, and the program calculates a^b and prints the value.

16. The user enters two integers, a and b, where $a \leq b$, the program prints a random number in the range [a, b].

17. The user enters a string and the program prints a randomly selected letter from the string. You must use Math.random() to pick which letter to print.