

Object Oriented Programming – Assignment

Duration 1 hr. 30 minutes

1. Write a Java method to check whether a string is a valid password.

Password rules:

A password must have at least eight characters.

A password consists of only letters and digits.

A password must contain at least two digits.

Expected Output:

Input a password): abcd1234

Password is valid

2. Write a method that receives a grade between 2.00 and 6.00 and prints the corresponding grade in words

▪2.00 -2.99 -"Fail"

▪3.00 -3.49 -"Poor"

▪3.50 -4.49 -"Good"

▪4.50 -5.49 -"Very good"

▪5.50 -6.00 -"Excellent"

3. Create a method for printing triangles as shown below:

Input : 3

1

1 2

1 2 3

1 2

1

Input : 4

1

1 2

1 2 3

1 2 3 4

1 2 3

1 2

1

4. Create a class called Invoice that a hardware store might use to represent an invoice for an item sold at the store. An Invoice should include four pieces of information as instance variables-a part number(type String),a part description(type String),a quantity of the item being purchased (type int) and a price per item (double). Your class should have a constructor that initializes the four instance variables. Provide a set and a get method for each instance variable. In addition, provide a method named getInvoice Amount that calculates the invoice amount (i.e., multiplies the quantity by the price per item), then returns the amount as a double value. If the quantity is not positive, it should be set to 0. If the price per item is not positive, it should be set to 0.0. Write a test application named InvoiceTest that demonstrates class Invoice's capabilities.