**Advanced Java**

UID: 24MCI10204

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**Question 1: Write a program in java that identifies and print perfect numbers between 2 and 500.**

**Code:**

class Problem1{  
 public static void main(String[] args) {  
 System.*out*.println("Perfect numbers between 2 and 500 are:");  
 for (int num = 2; num <= 500; num++) {  
 int sum = 0;  
 for (int i = 1; i <= num / 2; i++) {  
 if (num % i == 0) {  
 sum += i;  
 }  
 }  
 if (sum == num) {  
 System.*out*.println(num);  
 }  
 }  
 }  
}

**Question 2: Write a program to find how many letter a and letter b are occurs in the given string “aabaaaababa”.**

**Code:**

class Problem2 {  
 public static void main(String[] args) {  
 String str = "aabaaaababa";  
 int countA = 0;  
 int countB = 0;  
  
 for (int i = 0; i < str.length(); i++) {  
 char ch = str.charAt(i);  
 if (ch == 'a') {  
 countA++;  
 } else if (ch == 'b') {  
 countB++;  
 }  
 }  
  
 System.*out*.println("Number of 'a': " + countA);  
 System.*out*.println("Number of 'b': " + countB);  
 }  
}

**Question 3: Write a program to count number of words from a string in java.**

**Code:**

class Problem3{  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.println("Enter a string:");  
 String str = scanner.nextLine();  
 int wordCount = 0;  
 boolean inWord = false;  
 for (int i = 0; i < str.length(); i++) {  
 char ch = str.charAt(i);  
 if (ch != ' ' && !inWord) {  
 wordCount++;  
 inWord = true;  
 } else if (ch == ' ') {  
 inWord = false;  
 }  
 }  
  
 System.*out*.println("Number of words: " + wordCount);  
 }  
}