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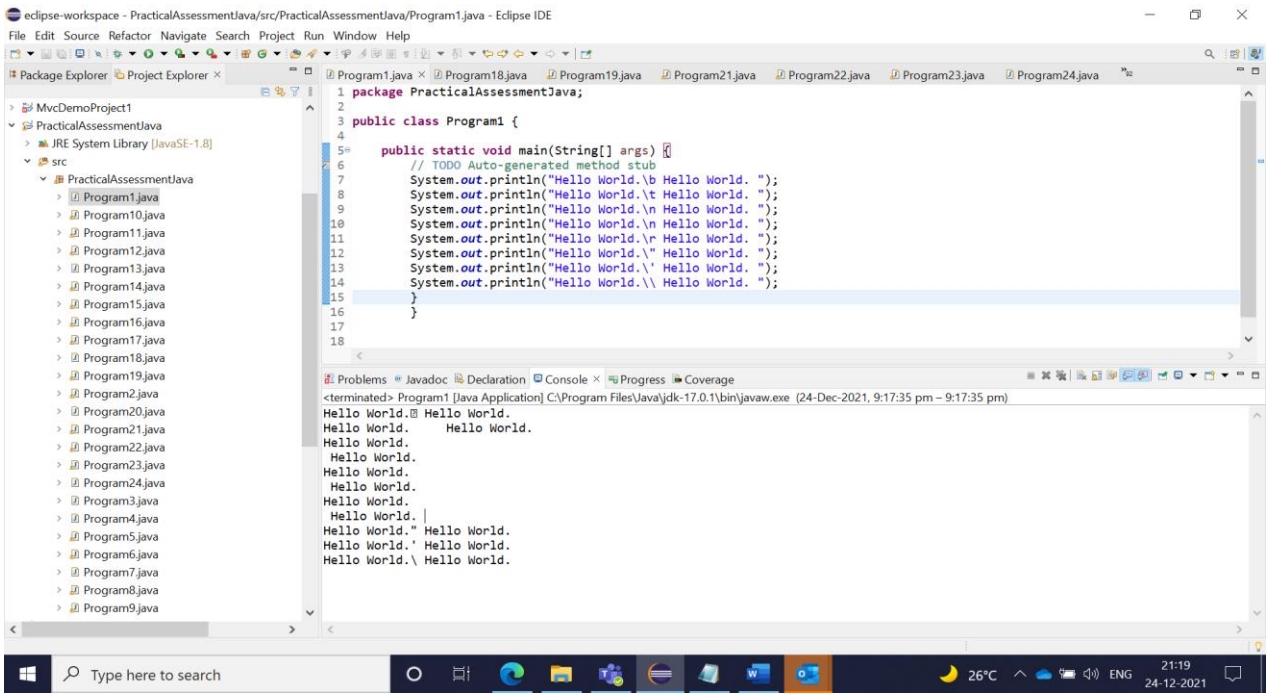
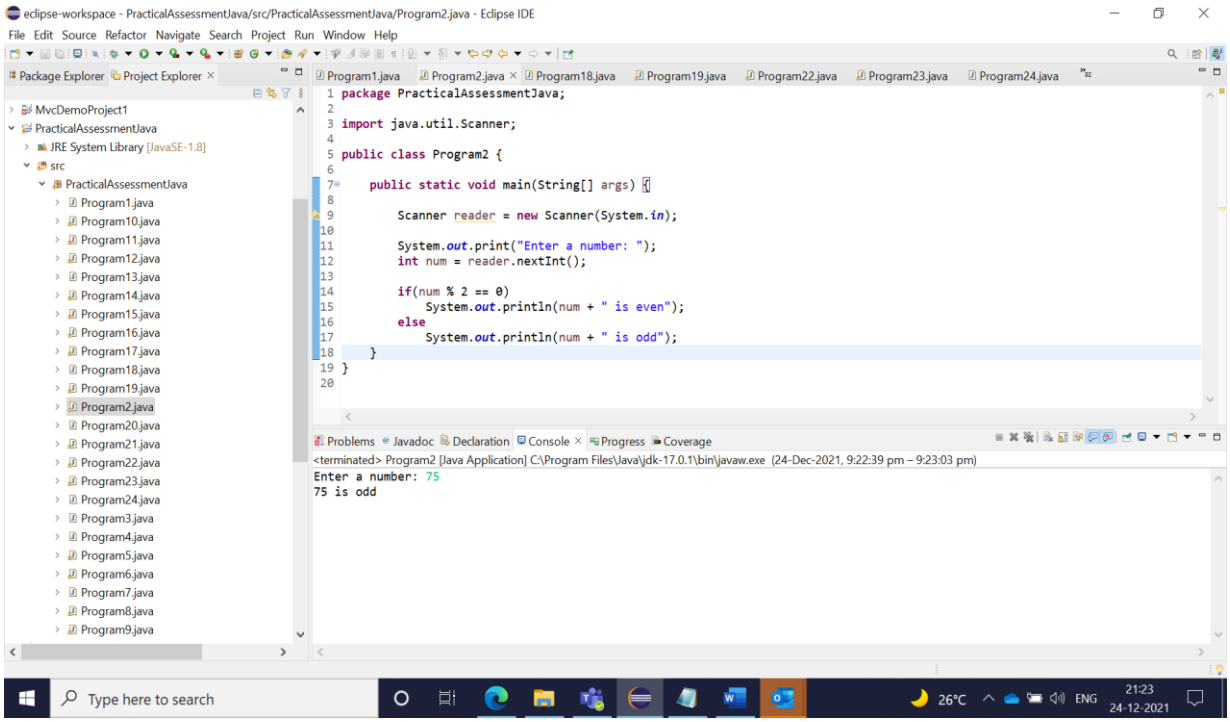
Practical Assessment-Java Answers

1)1-Use the following escape sequence abd print the statements given below and notice the output.

1. Hello World.\b Hello World.
2. Hello World.\t Hello World.
3. Hello World.\n Hello World.
4. Hello World.\n Hello World.
5. Hello World.\r Hello World.
6. Hello World.\" Hello World.
7. Hello World.\' Hello World.
8. Hello World.\\ Hello World.



2) Accept a number from user and determine if a given number is odd or even and print



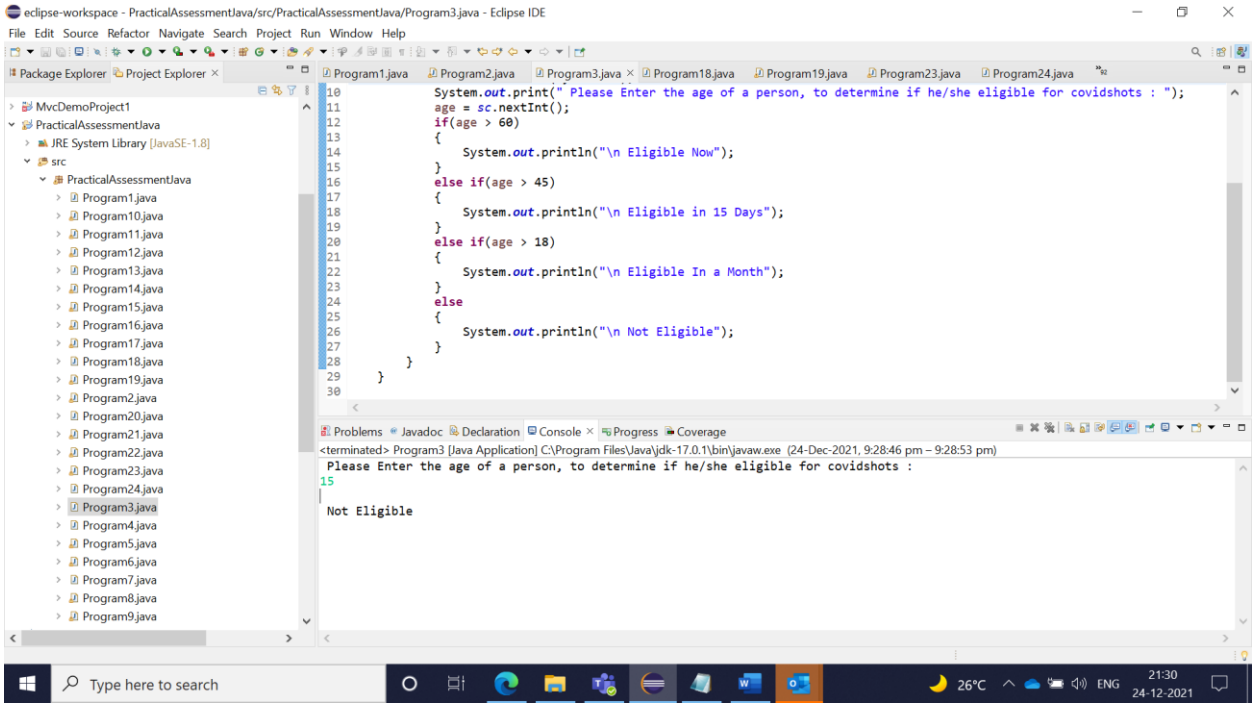
3)Accept age of a person and determine if he/she eligible for covidshots.

1. More than 60, print "Eligible now"

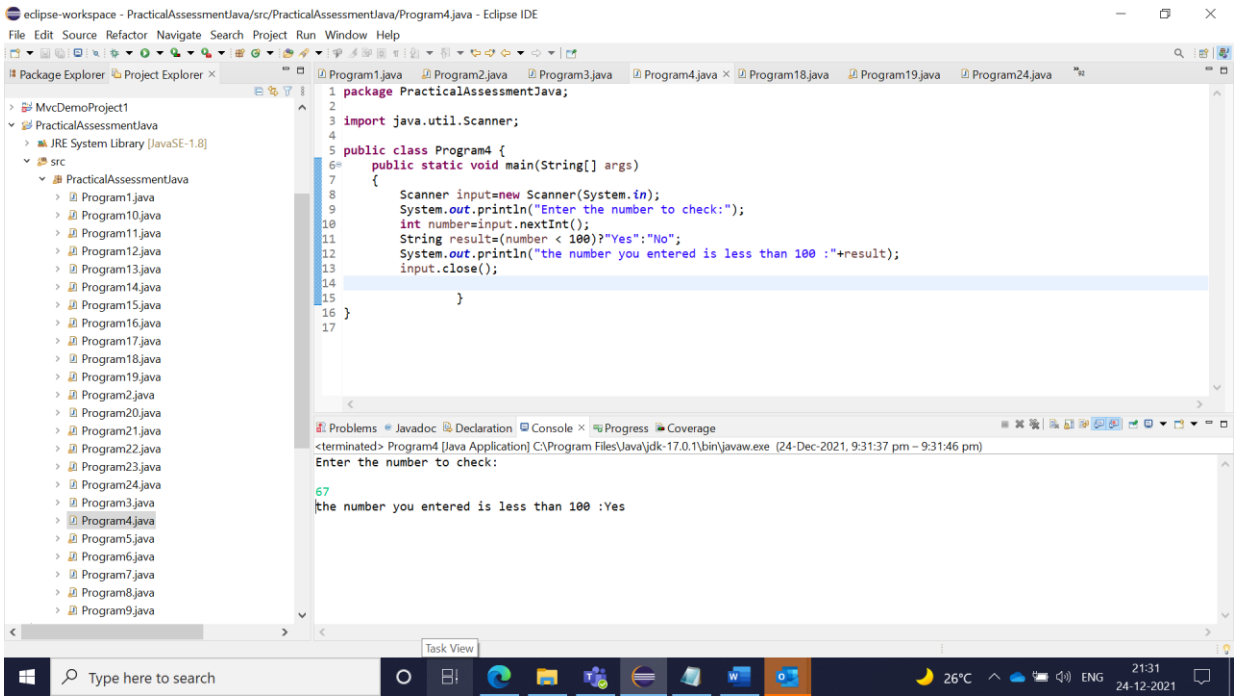
2. More than 45, print "Eligible in 15 days"

3. More than 18, print "Eligible in a month"

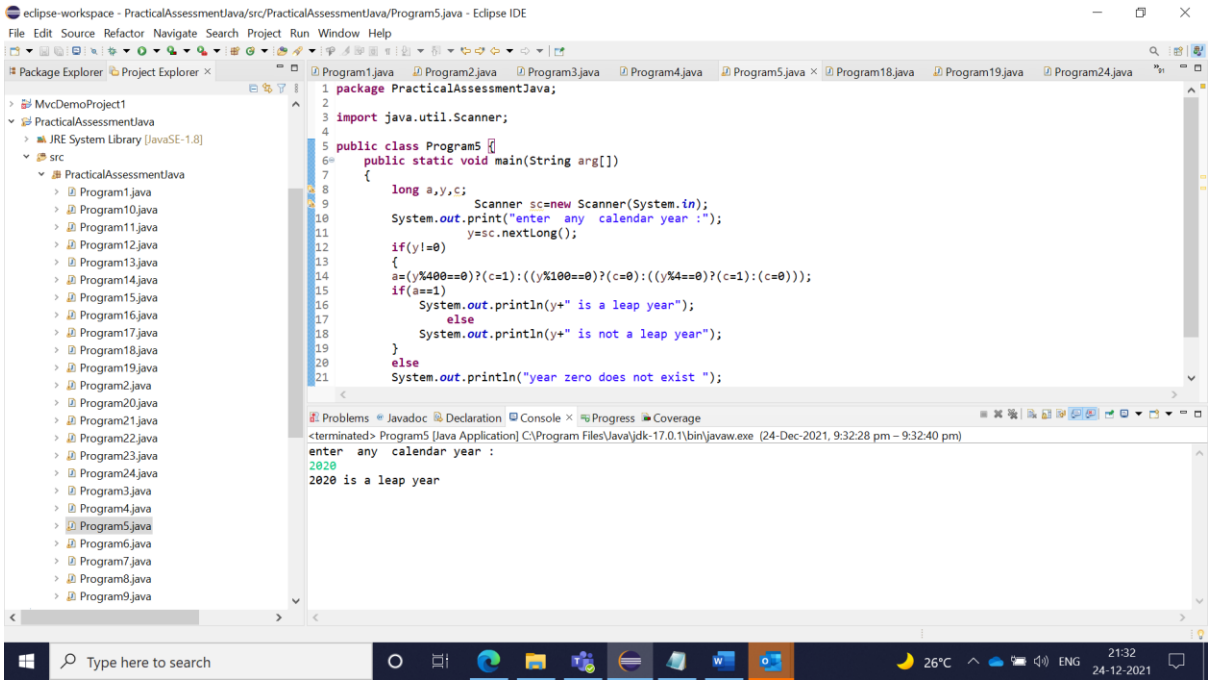
4. Less than 18, print "Not Eligible"



4) Accept input from user and validate if it is a number less than 100 using ternary operator.

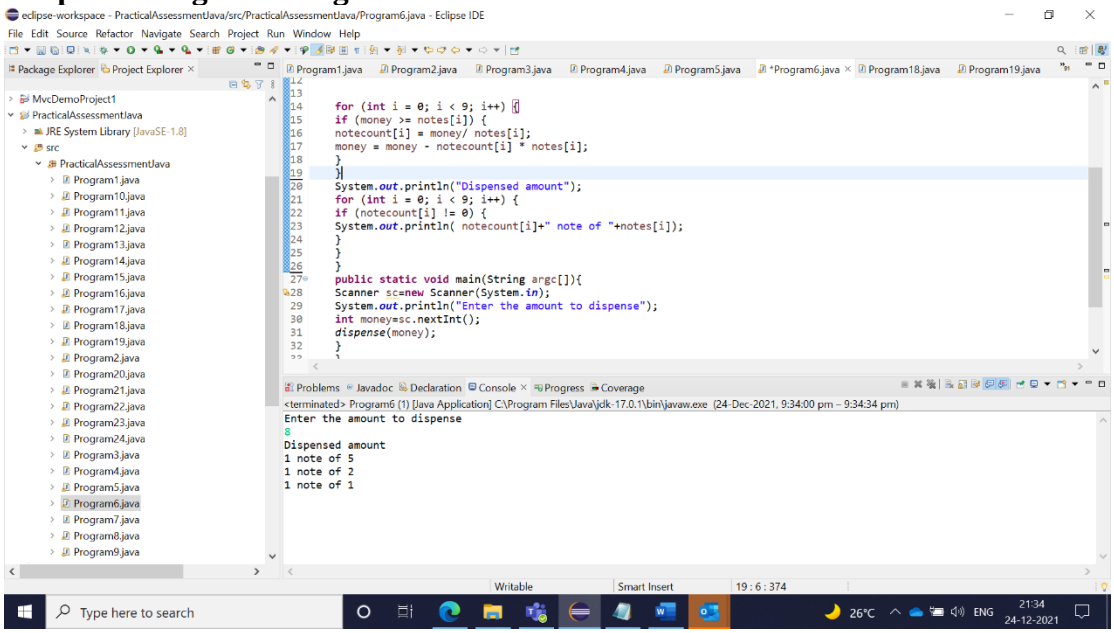


5) Accept year from user and validate if it is a leap year using ternary operator

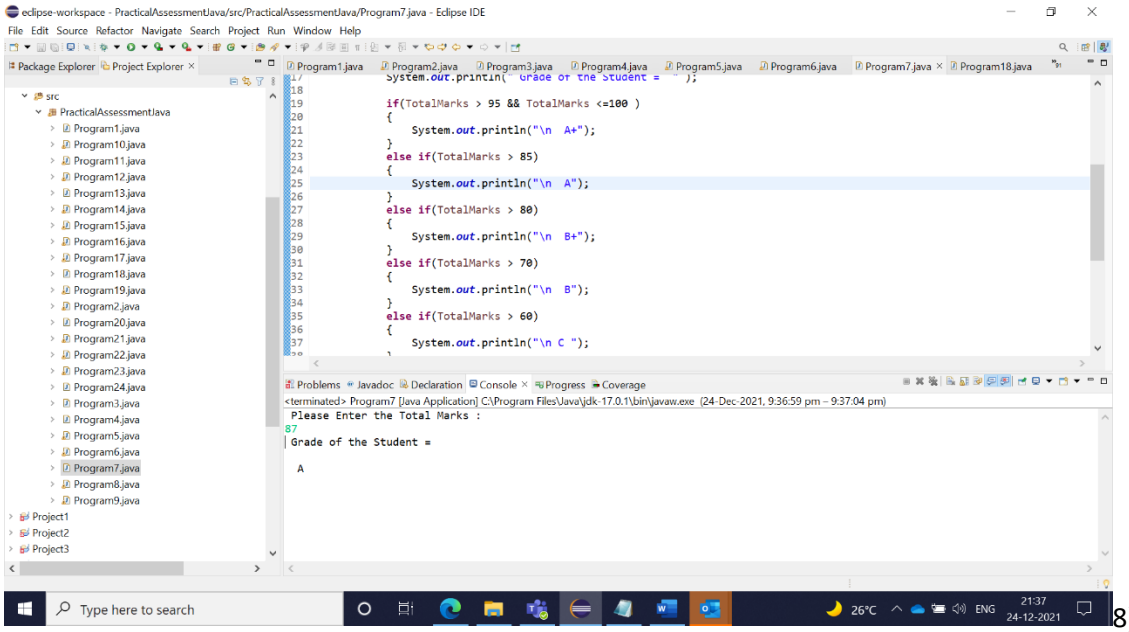


6) A banker has the following denominations to deliver cash. INR : 1,2,5,10,20,50,100,200,500. Accept a value from user and remit the sum with least number of notes.

Test cases: In what dnominations would a banker remit sum of Rs, 475, Rs 530, Rs 219
Input: integer between 1 and 100,000
Output: String descrbing the number of notes and currencies.

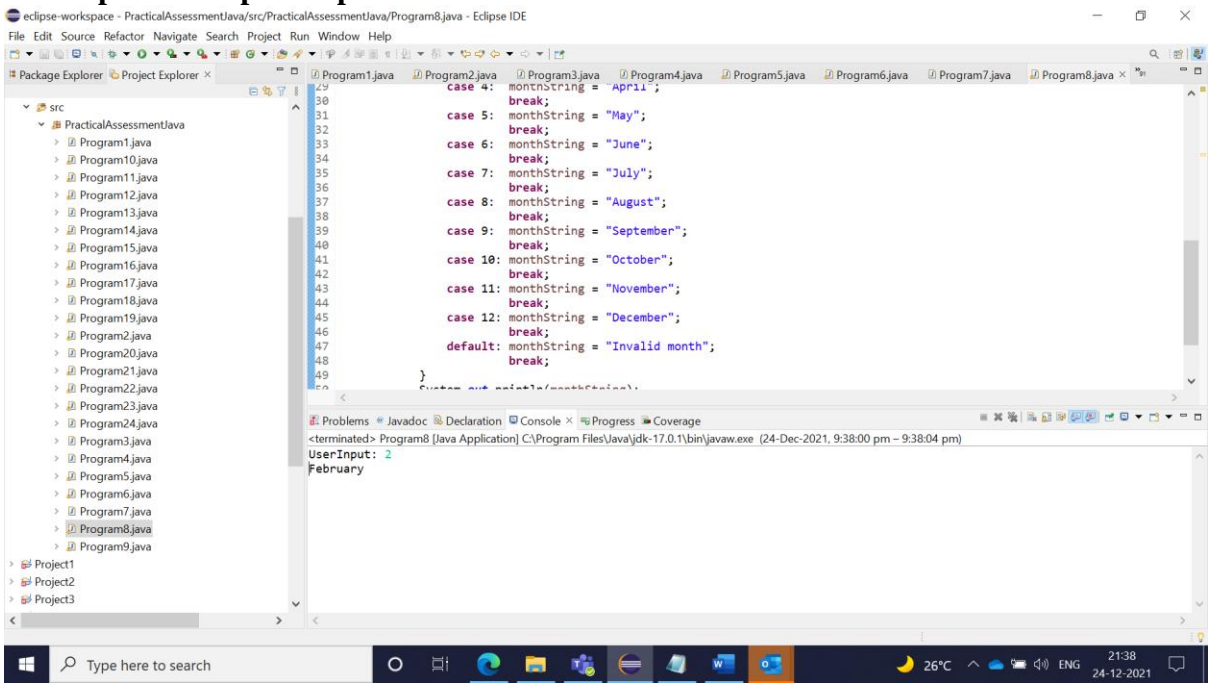


7) Accept student total marks M and grade the students based on the marks entered.
0<M 95 is A+
M > 85 is A
M > 80 is B+
M > 70 is B
M > 60 is C
M > 50 is D
M < 50 Fails.

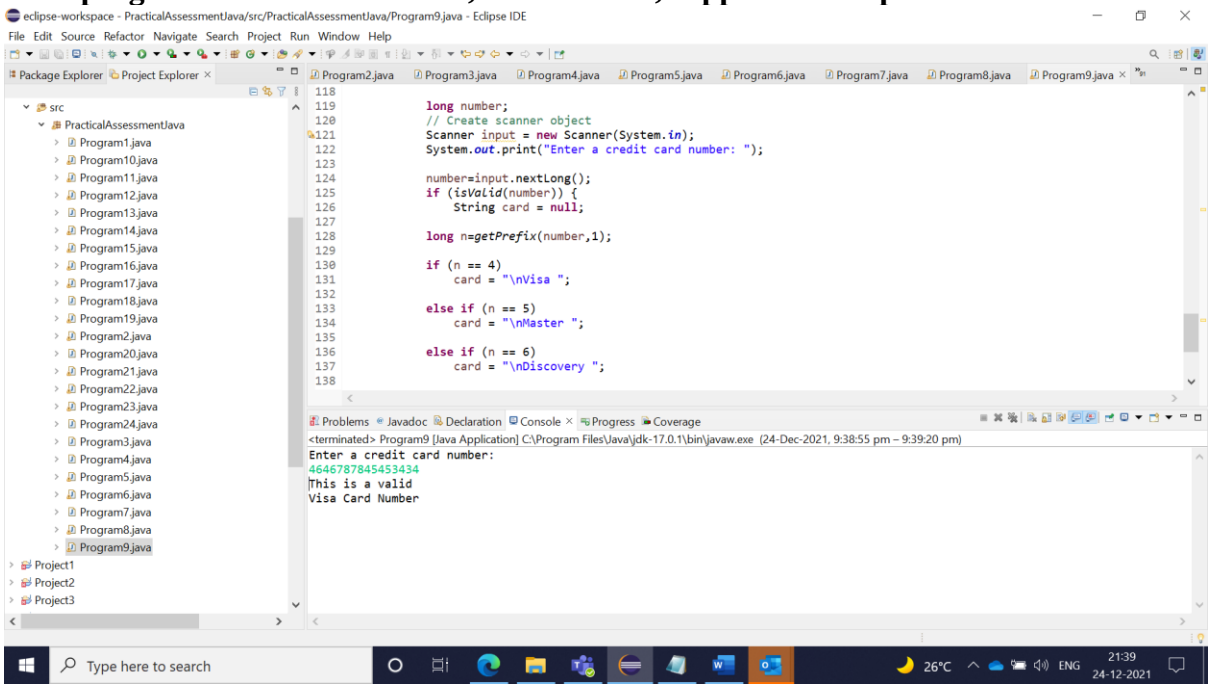


8)

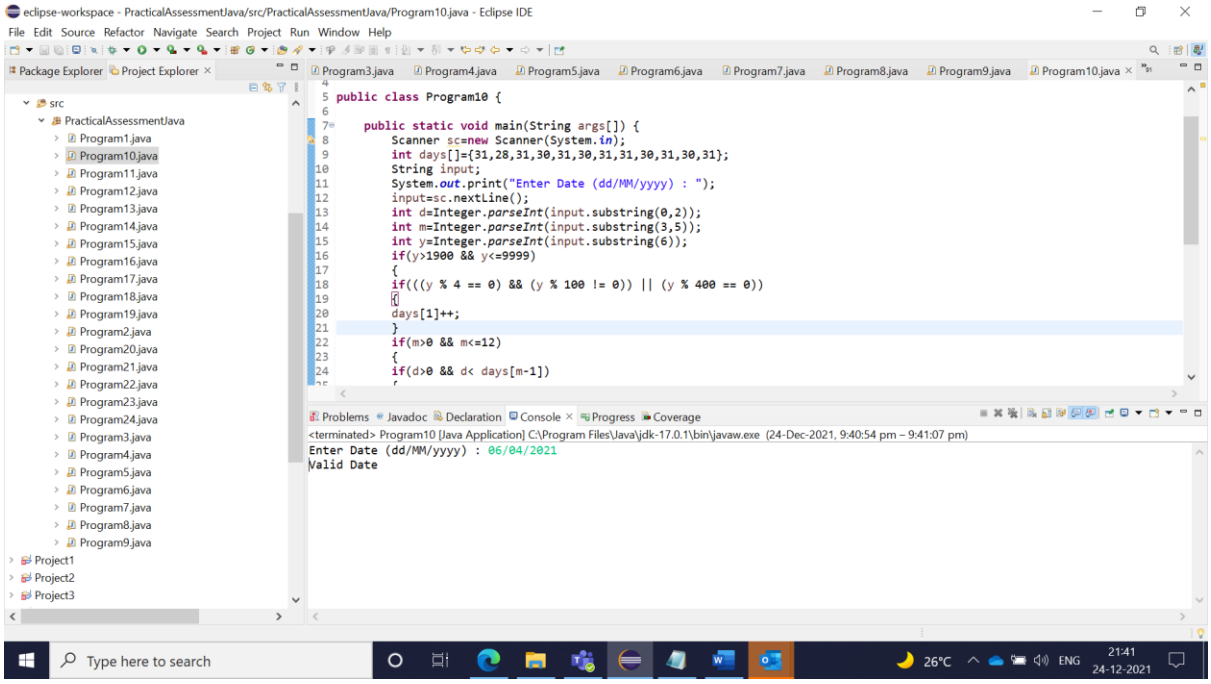
8)Using Switch statement: Print the month of the year in literals, based on the numeric value entered.
UserInput: 1
Output: January
UserInput: 9 Output: September



9) Write a function to determine if a given number is a valid credit card number and determine the type of card. All credit card numbers are 16 digits in length. If your credit card numbers begin with 3, then it's always part of the American Express, Diner's Club or Carte Blanche payment networks. If the card begins with a 4, then it is a Visa. Card numbers that begin with 5 are part of the MasterCards, while cards that begin with 6 belong to the Discover network.
This program should have a class, constructors, support user input.



10) The following needs String class. Using Switch: 1. Accept a past date from user and check if it is a valid date. Do not use 'SimpleDateFormat' class from java.
Example Input: Enter
Date(DD/MM/YYYY): 12/12/2009
This is a valid date.
Input: Enter Date(DD/MM/YYYY): 29/02/2009
This is invalid date.



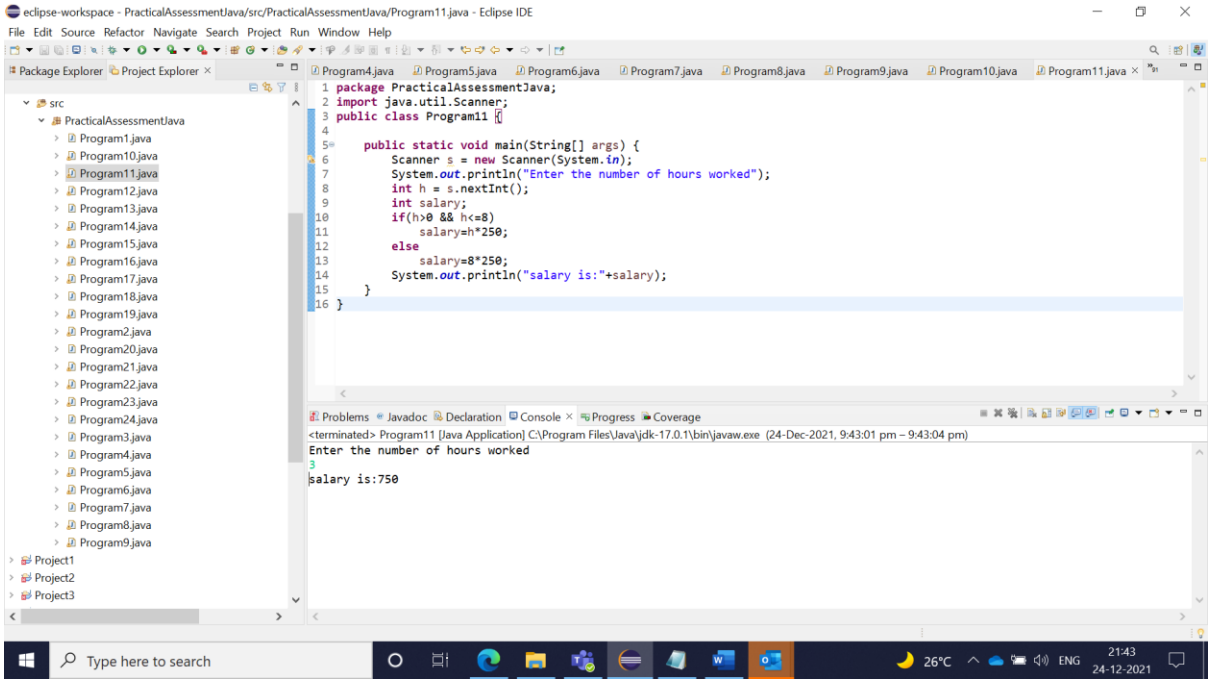
11) . Can there be return stmt for a constructor?
Ans: No

12) Can we define a non default constructor without define default constructor
Ans: Yes

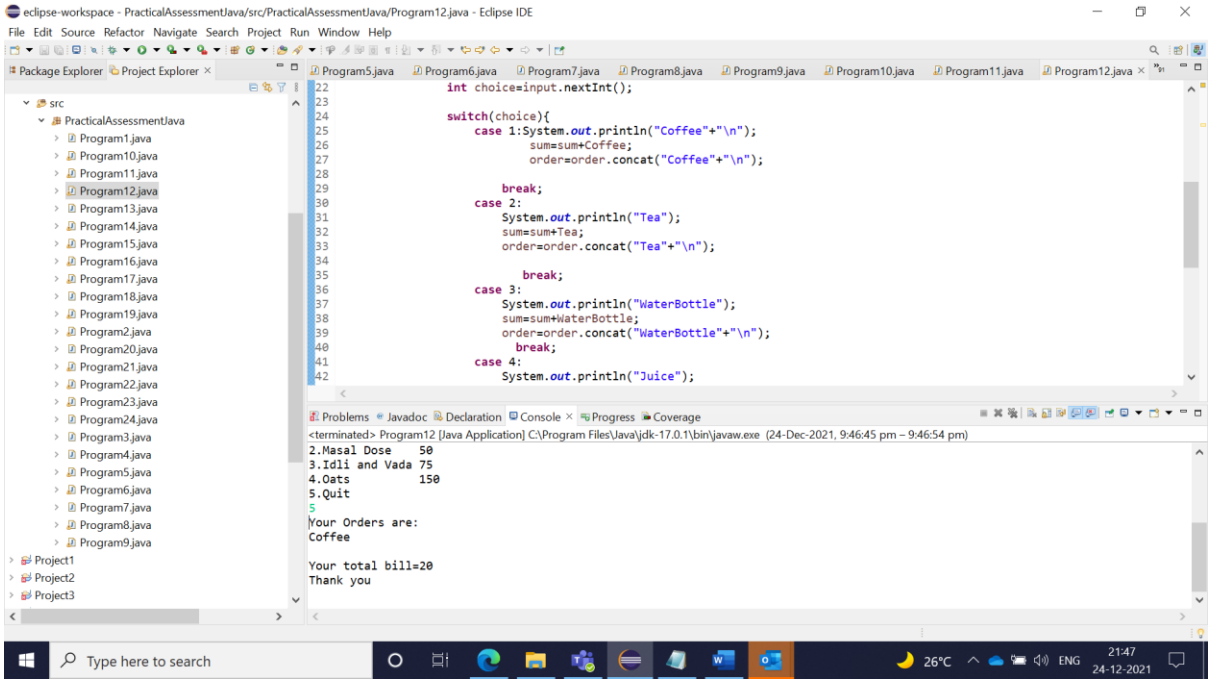
13) what is wrong with this?
for (int i = 1; i <= 1000; i++)
{
int sum = 0; sum = sum + i;
}
System.out.println("The sum is " + sum);

Ans: Sum cannot be resolved to a variable. Because sum is initialized inside for loop and is accessible only inside loop so we cannot print the value of sum.

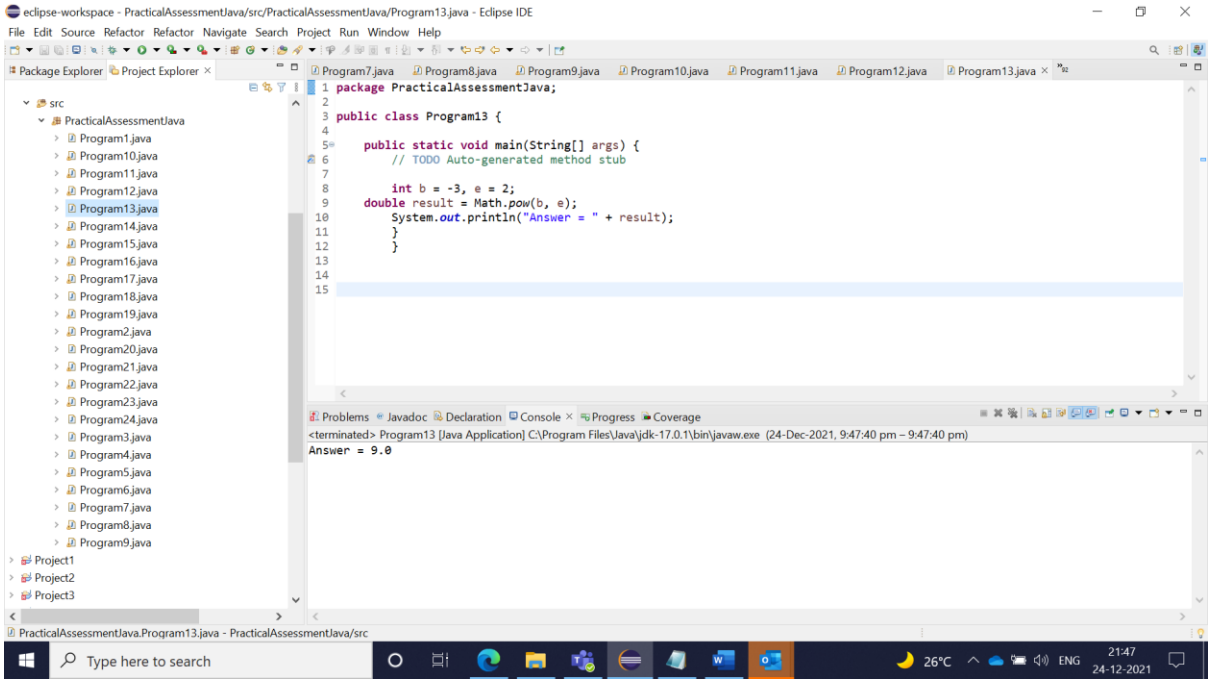
14) Gather the number of hours employee works, pay only the eigt hours he works at the rate of Rs 250 per hour. It is a company policy not to pay over time.



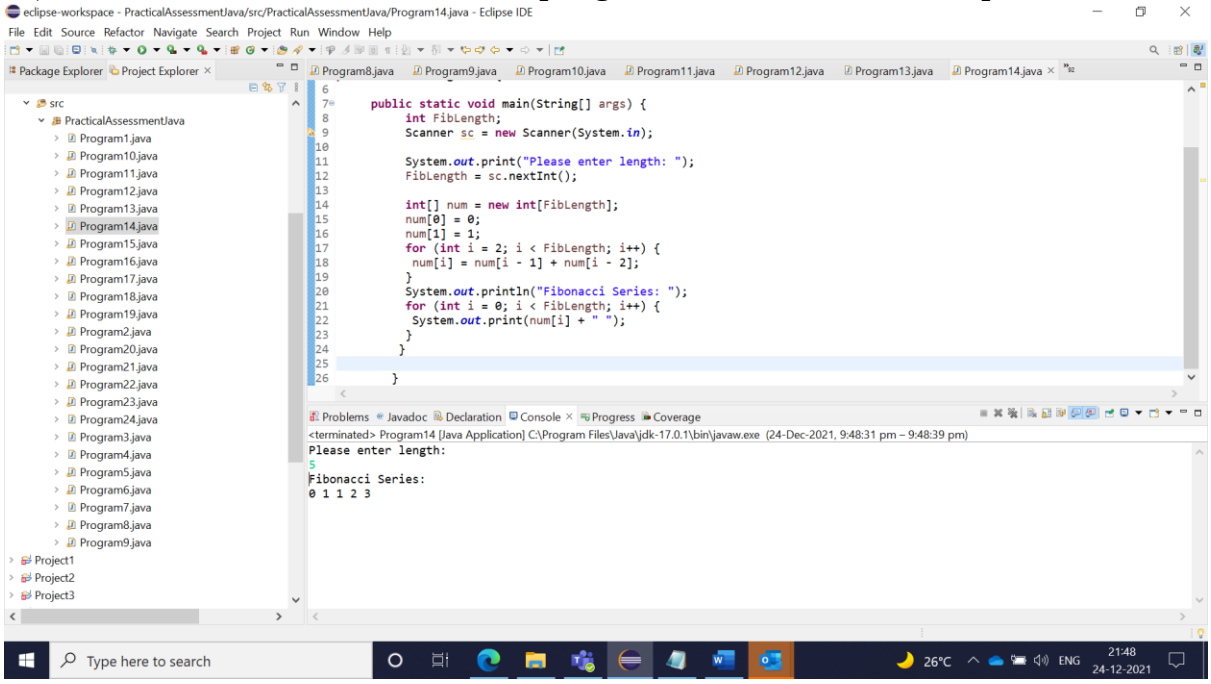
15) Present a menu of a restaurant and calculate the cost of breakfast.



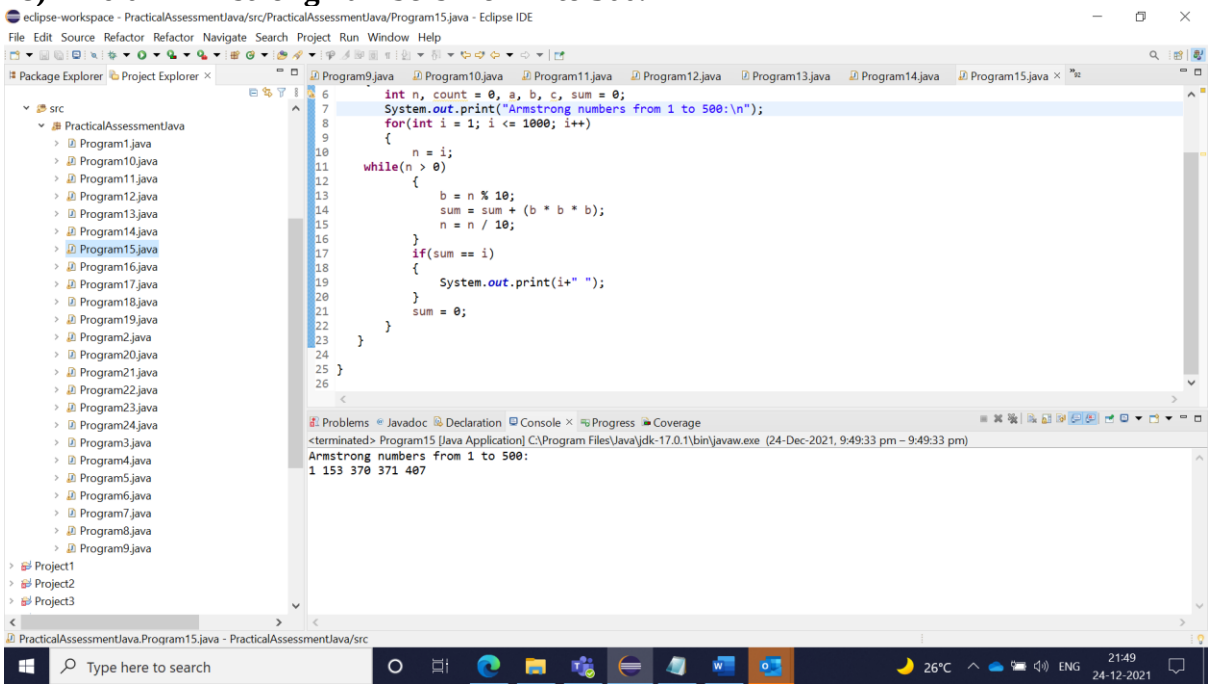
16) Accept a base b, and an exponent e. write a function power(b,e) that returns b reaised e. Print the solution.



17) Generate fibonacci terms after accepting the number of terms to be printed.

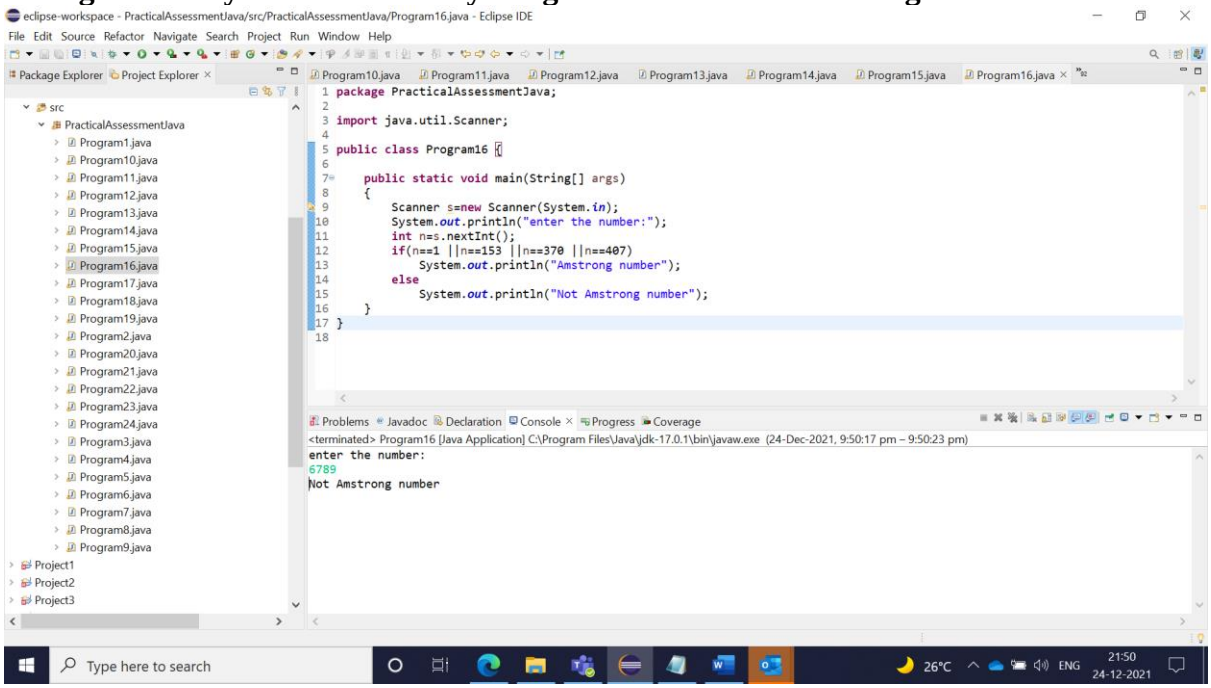


18) Find all Armstrong numbers from 1 to 500.

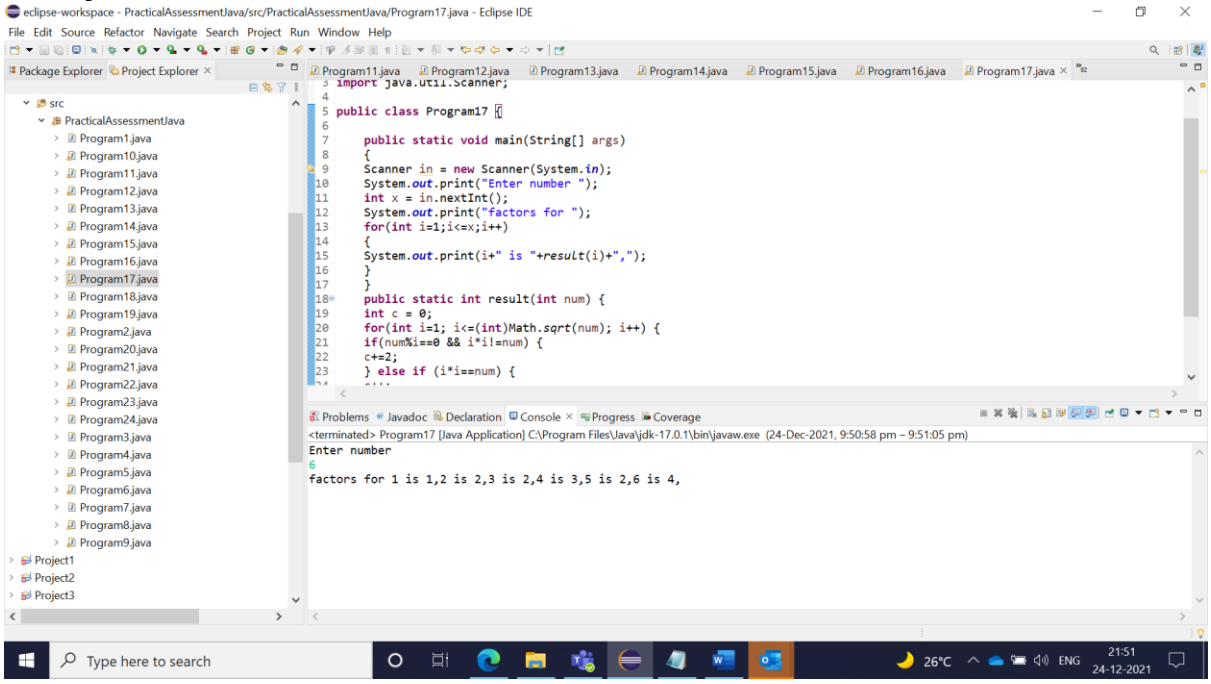


19) An Armstrong number is a n-digit number that is equal to the sum of nth power of its digits. Example all single digit number are Armstrong numbers 3 to power 1 is 3 371 = 3 Power 3 + 7 power 3 + 1 power 3 = 371.

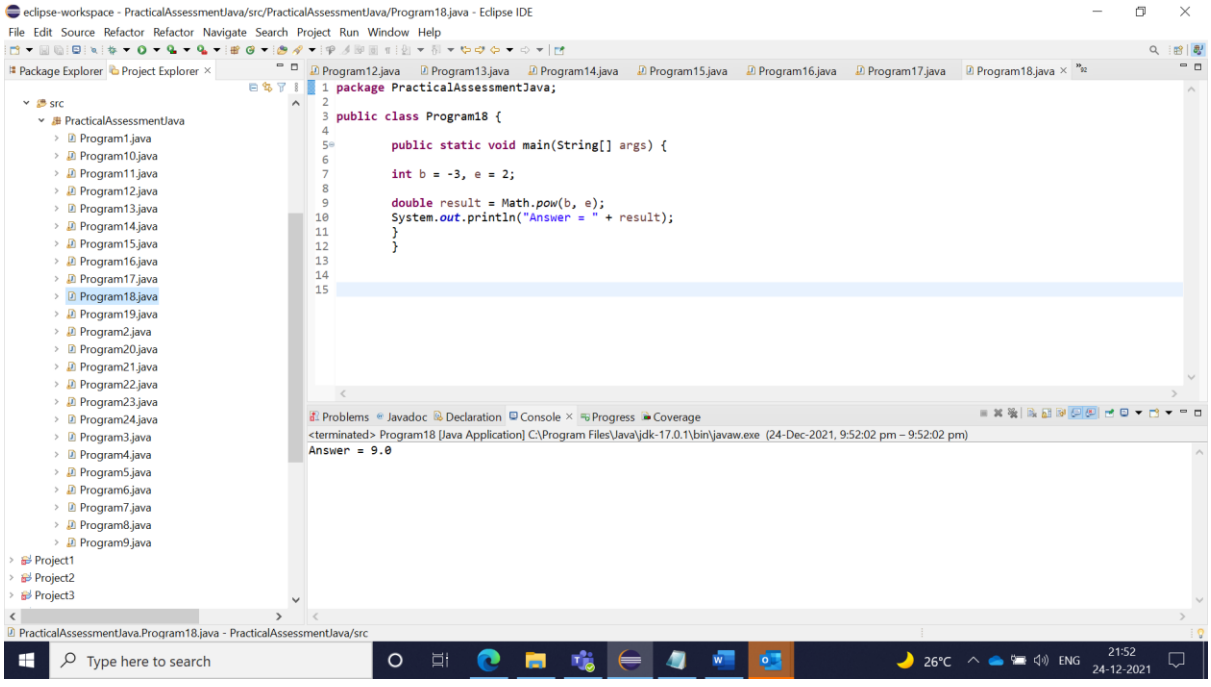
Changes: Modify the code to verify if a given number is Armstrong number



20) Count the number of factors for every number from 1 to N.
Example: N = 9 Facots for 1 is 1, 2 is 2, 3 is 2, 4 is 3, 5 is 2, 6 is 4, 7 is 2, 8 is 4 , 9 is 3



21) Accept a Base b, and an exponent e. write a function power(b,e) that returns b reaised e. Print the solution.

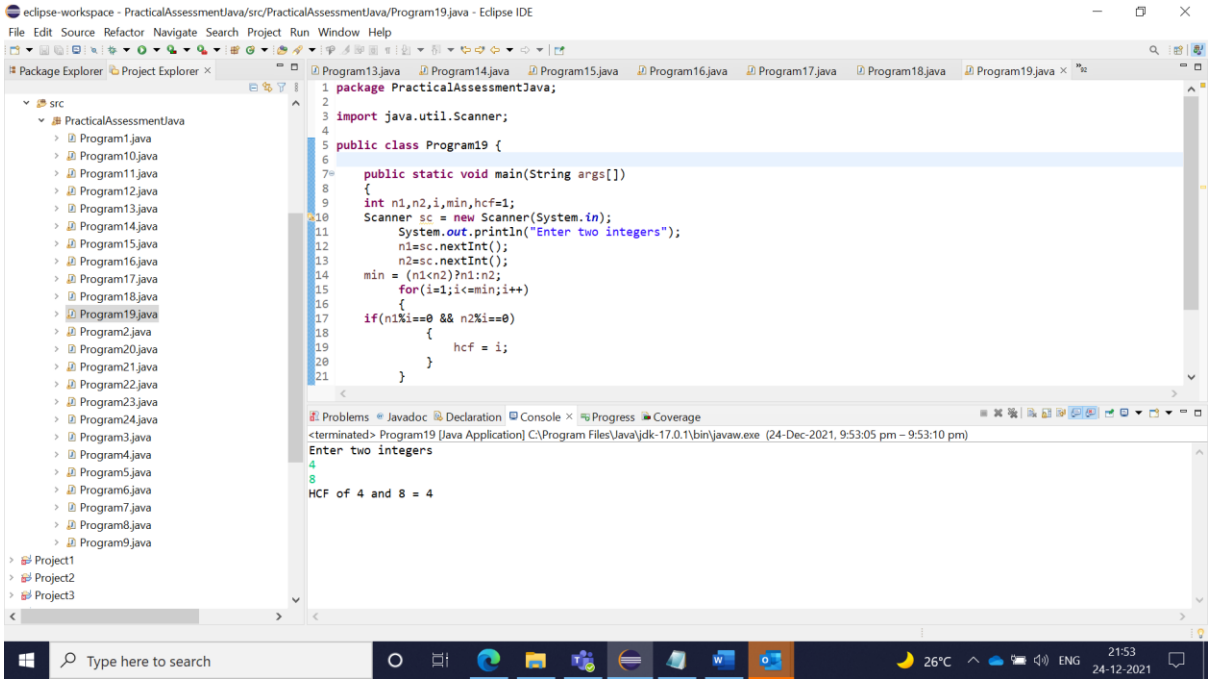


22) HCF: Highest Common Factor.

The HCF of two numbers is the greatest number that divides the two numbers.

Example: HCF of (14, 42) is 14.

Factors of 14 -> 2, 7,14 Factors of 42 -> 2, 3, 6, 7, 14, 21



23) . Print the following pattern on the screen.

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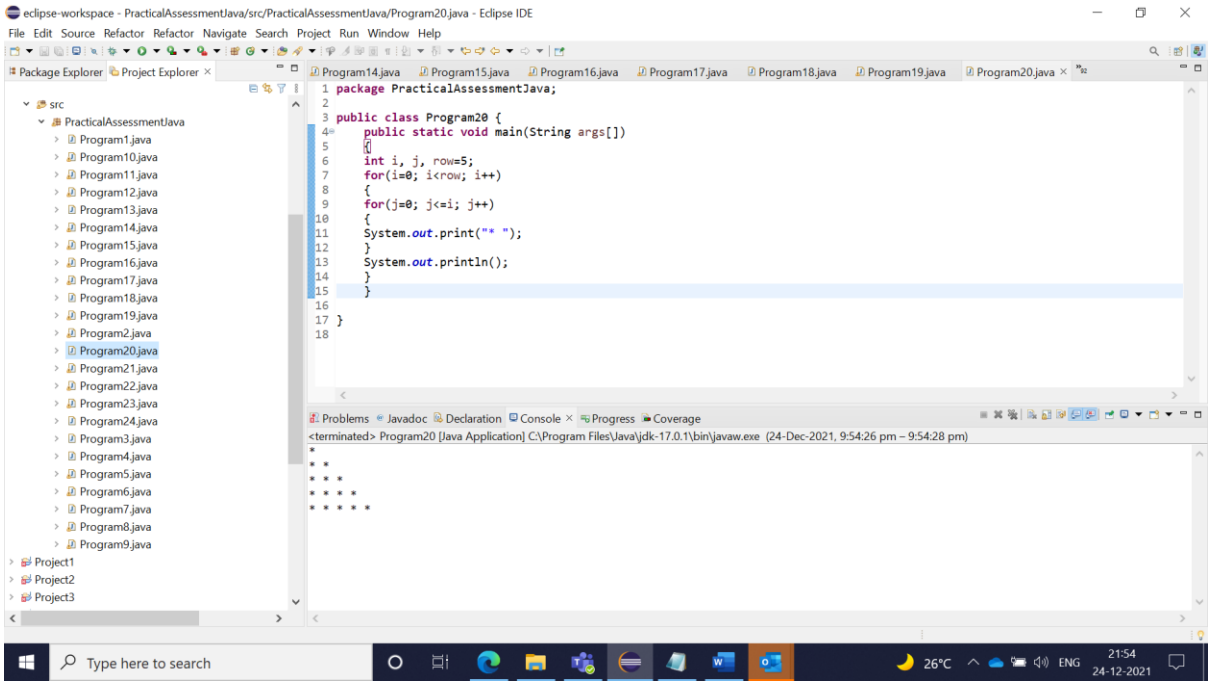
*** * ***

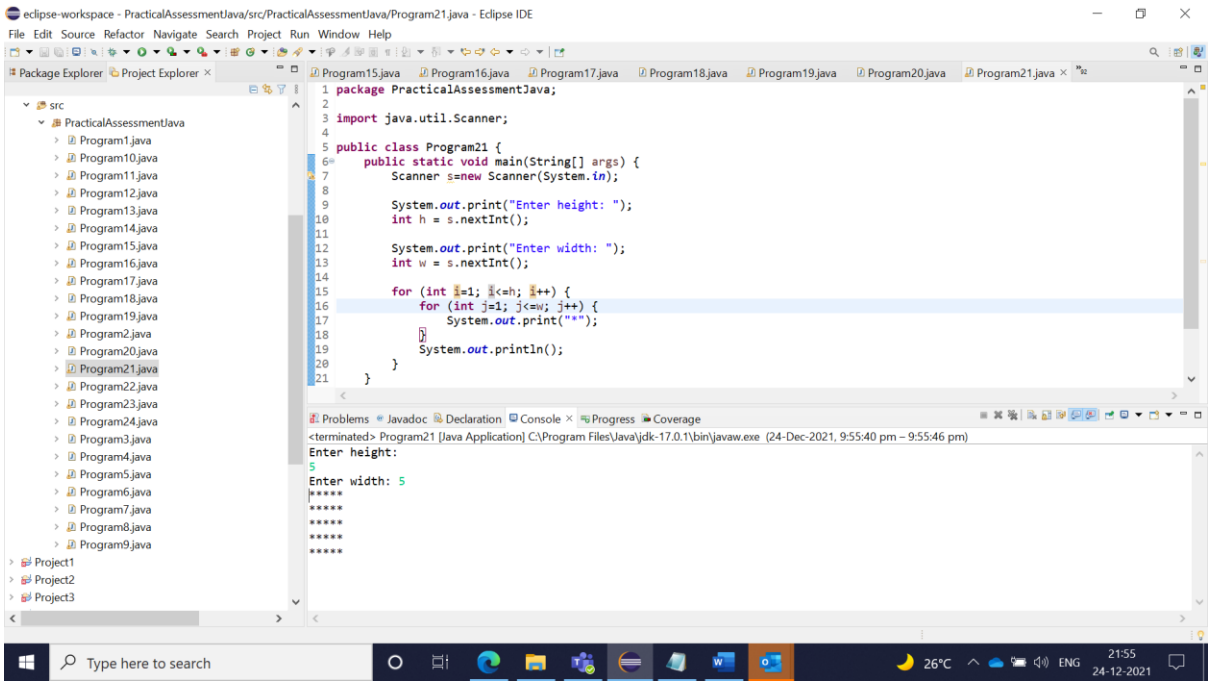
*** * * ***

*** * * * ***

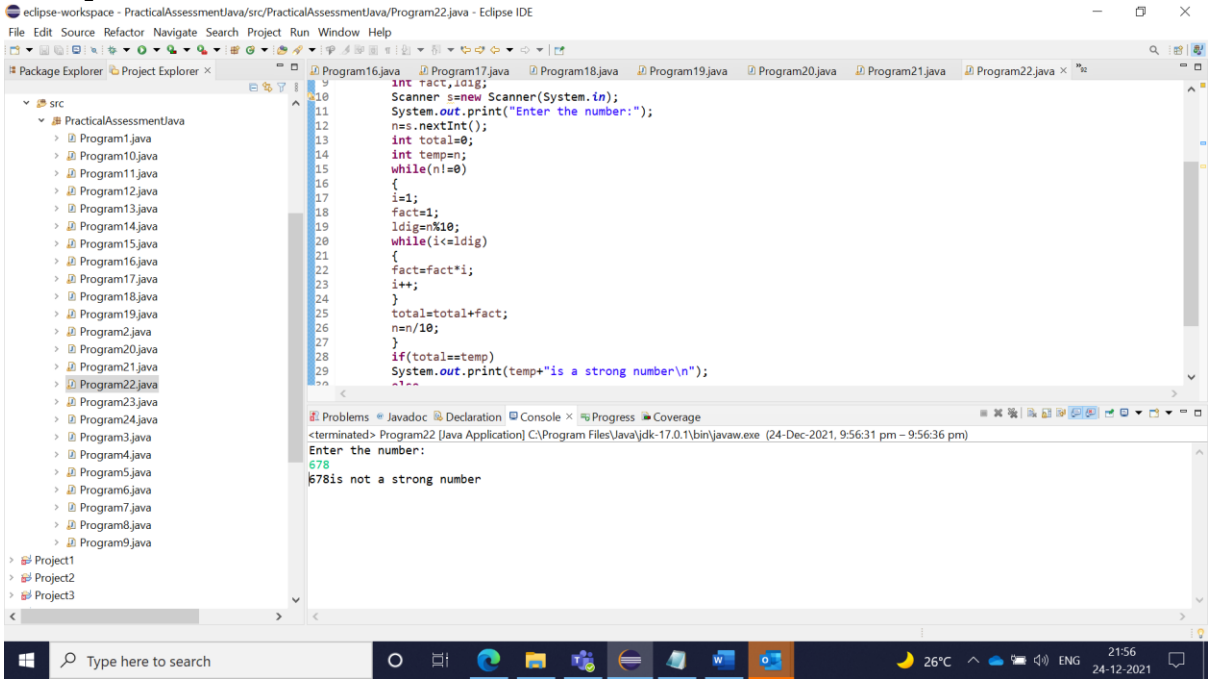


24) Accept height and width and print the pattern with a '*' Ex for height = 5 , width = 5,

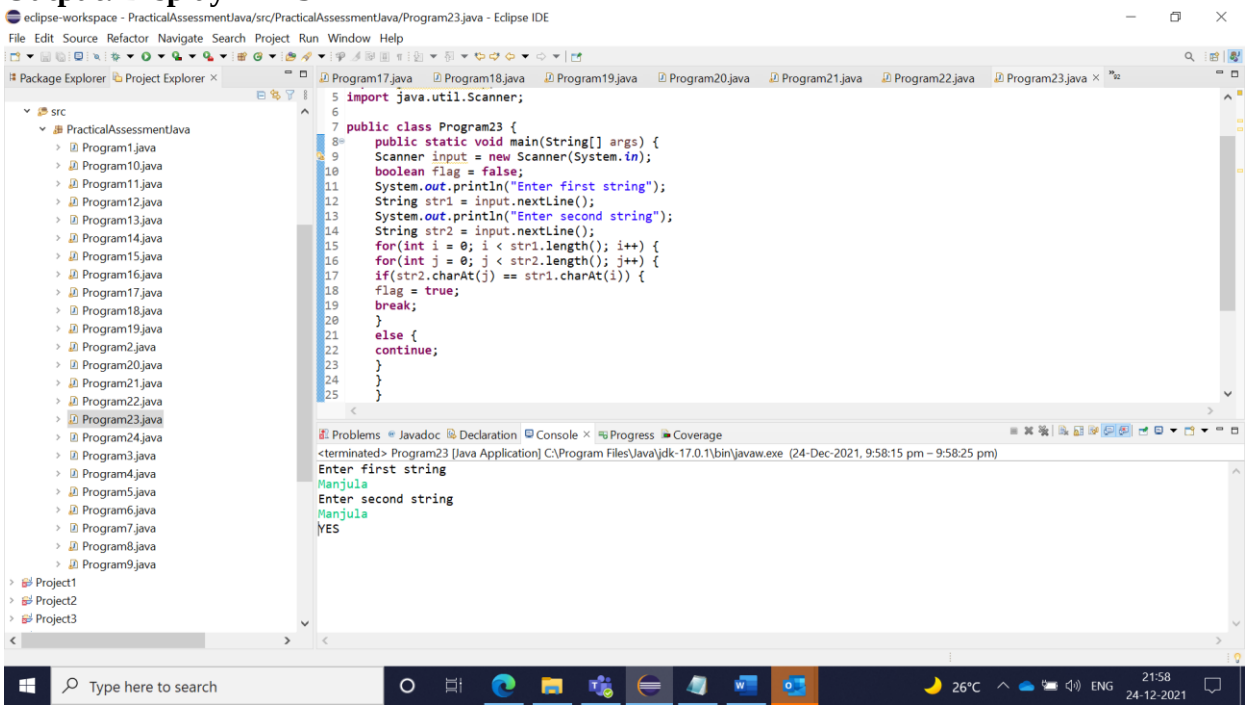
* * * * *
 * * * * *
 * * * * *
 * * * * *
 * * * * *



25) Defenition of strong number: The sum of the factorials of digits of a number should add upto the number itself.
Example 145 => 1! + 4! + 5!



26) Statement: Find if there is any chareacter common between the two strings.
If there is a common character return YES else return "NO"
UserIputs: 1. Accept two strings from user.
Output: Display "YES"



27) Convert string to char array