Question 1) Write a java program to check whether a number is Emirp number or not.

Algorithm

1. START

2. take input form user

3. execute a loop from i=2 to i<(n/2)

4. check if n is divisible by i from 2 to n/2

5. if i is not divisible by any value of i then n is prime

6. if i is divisible by any value of i then print "invalid input" and exit program

7. to find the reverse of n calculate the n%10 and add to the reverse number

8. update n by n/10

9. Now check if the reverse number is prime or not

10. Repeat steps 3 to 5 to check for prime number

11. if reverse number is prime number print n is an Emirp number otherwise print n is not an Emirp number

12. END

Source Code

import java.util.Scanner;

public class Emirp{

public static boolean isPrime(int num){

if(num<=1)

return false;

for(int i=2;i<(num/2);i++){

if(num%i==0)

return false;

}

return true;

}

public static void main(String args[]){

Scanner nrt=new Scanner(System.in);

System.out.println("enter a number");

int user=nrt.nextInt();

if(isPrime(user)){

//reversing the number

int copy=user,reverse=0;

while(copy!=0){

reverse = (reverse\*10) +(copy%10);

copy/=10;

}

if(isPrime(reverse))

System.out.println(user+" is an Emirp Number");

else

System.out.println(user+" is NOT an Emirp Number");

}

else

System.out.println("Invalid Input");

}

}

Variable Description Table

|  |  |  |
| --- | --- | --- |
| Variable name | Data type | Use |
| num | int | Argument for isPrime method |
| nrt | Wrapper object | For taking input |
| user | int | To store the input |
| copy | int | To store a copy of user variable’s value |
| reverse | int | To store the reverse of user |