PLACEMENTS KEY'S

Coding Challenge #7 (Question)

Day - 4

Veda wants to work on a project. The main aim of the project is to detect the prime number within the specified range. So, help him to develop the project.

Input format:

1. First line contains two integer "start" and "stop", which resembles a range I.e, start ≤ range ≤ stop.

Output format:

1. The output should contain all the prime numbers within the specified range.

2. If the value of start is greater than stop, it should print "Invalid Range" in the output.

Constraints:

1. Start ≤range ≤stop.
2. 1≤start≤1000 and 1≤start≤1000.
3. 1 is neither prime nor composite.

Sample input 0:

1 20

Sample output 0:

2 3 5 7 11 13 17 19

Sample input 1:

100 500

Sample output 1:

101 103 107 109 113 127 131 137 139 149 151 157 163 167 173 179 181 191 193 197 199 211 223 227 229 233 239 241 251 257 263 269 271 277 281 283 293 307 311 313 317 331 337 347 349 353 359 367 373 379 383 389 397 401 409 419 421 431 433 439 443 449 457 461 463 467 479 487 491 499

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Coding Challenge #7 (Question contd.)

Day - 4

Sample input 2:

100 1

Sample output 2:

Invalid Range

Explanation:

Print all the prime numbers between the start and stop values. If the range is invalid print "Invalid Range".

Complete the Prime_detector() function in the following code:

```
#include<stdio.h>
int Prime_detector(int start,int stop);
int Prime_detector(int start,int stop)
{
        /*Complete the code here*/
}
int main()
{
        int start,stop;
        printf("Enter the start and stop range: ");  //enter the range
        scanf("%d %d",&start,&stop);
        Prime_detector(start,stop);  //function call is here
}
```

PLACEMENTS KEY'S

Coding Challenge #7 (C Solution)

Day - 4

```c
#include<stdio.h>
int Prime_detector(int start,int stop);
int Prime_detector(int start,int stop)
{
        if(start==1)
          start=start+1;     //if start is 1 then increment to 2
        if(start<stop){
        for(int i=start;i<=stop;i++)
        {
                int flag=0;
                for(int j=2;j<=i/2;j++)
                {
                        if(i%j==0)
                          flag=1;      //check for prime
                }
                if(flag==0)
                  printf("%d ",i);
        }
  }
```

PLACEMENTS KEY'S

Coding Challenge #7 (C Solution contd.)

Day - 4

```
else
  {
        printf("Invalid Range");  //if start>stop print Invalid Range
        }
}
int main()
{
        int start,stop;
        printf("Enter the start and stop range: ");  //enter the range
        scanf("%d %d",&start,&stop);
        Prime_detector(start,stop);  //function call is here
}
```

PLACEMENTS KEY'S

Coding Challenge #7 (JAVA Solution)

Day - 4

```
import java.util.*;
public class RangedPrimes
{
	public static void main(String[] args)
	{
		Scanner input = new Scanner(System.in);
		int start,end;
		System.out.println("Enter the start and end element");
		start=input.nextInt();
		end=input.nextInt();
		if(start<end){
			for(int i=start;i<=end;i++){
				int count=0;
				for(int j=2;j<i;j++)
				{
					if(i%j==0){
						count=1;
						break;
					}
				}
				if(count == 0 && i!=1){
					System.out.print(i + " ");
				}
				else
					continue;
			}
		}
		else
			System.out.println("Invalid Range");
	}
}
```

PLACEMENTS KEY'S

Coding Challenge #8 (Question)

Day - 4

Write a program to find the GCD of a Number?

Input Format:

Enter the two numbers.

Output Format:

The GCD of the two numbers is printed.

Sample Input 0:

4 12

Sample Output 0:

4

Sample Input 1:

12 65

Sample Output 1:

1

PLACEMENTS KEY'S

Coding Challenge #8 (C Solution)

Day - 4

```c
#include<stdio.h>
int gcd(int a, int b);
int main()
{
   int a, b;
   printf("Enter 2 numbers:");
   scanf("%d %d", & a, & b);
   printf("Greatest Common Divisor is %d", gcd(a, b));
   return 0;
}
 int gcd(int a, int b)
  {
       if (b == 0)
        return a;
        else
        return gcd(b, a % b);
}
```

PLACEMENTS KEY'S

Coding Challenge #8 (JAVA Solution)

Day - 4

```
import java.util.*;
public class GCD
{
	public static int gcd(int a,int b){
		if(b==0)
			return a;
		else
			return gcd(b,a%b);
	}
	public static void main(String[] args)
	{
		Scanner input=new Scanner(System.in);
		System.out.println("Enter the two numbers");
		int x,y;
		x=input.nextInt();
		y=input.nextInt();
		System.out.println(gcd(x,y));
	}
}
```