DAY 2

In last section we have discussed about divisibility of Euclid's Division Algorithm, Now we will discuss about HCF by Euclid's Division Algorithm.

1. Use Euclid Division Algorithm to find HCF of 867 and 255.   (NCERT Ex1.1, Q1(iii))

Sol:- We start with larger integer 867 & by Division Algorithm

$867 = 255 \times 3 + 102$

$255 = 102 \times 2 + 51$

$102 = 51 \times 2 + 0$ (notice that remainder become zero)

So We cannot proceed further HCF (867,255) = 51
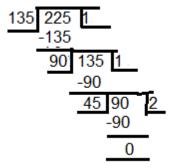
```
255 | 867 | 3
      -765
      102 | 255 | 2
            -204
             51 | 102 | 2
                  -102
                     0
```

2. Use Euclid Division Algorithm to find HCF of 135 and 225.   (NCERT Ex1.1, Q1(i))

Sol:- By Euclid's Division Algorithm

$255 = 135 \times 1 + 90$

$135 = 90 \times 1 + 45$

$90 = 45 \times 2 + 0$

So HCF = 45

```
135 | 225 | 1
      -135
       90 | 135 | 1
            -90
            45 | 90 | 2
                -90
                 0
```

3. Use Euclid Division Algorithm to find HCF of 42 and 455.

Sol:- By Euclid's Division Algorithm

$455 = 42 \times 10 + 35$

$42 = 35 \times 1 + 7$

$35 = 7 \times 5 + 0$

So HCF = 7

```
42 | 455 | 10
     -420
      35 | 42 | 1
          -35
           7 | 35 | 5
              -35
               0
```

4. A sweetseller has 420 kaju barfis and 130 badam barfis. He wants to stack them in such a way that each stack has the same, and they take up the least area of the tray. What is the number of that can be placed in each stack for this purpose?   (NCERT Example 4)

Sol:- He wants to stack them in such a way that each stack has the same, and they take up the least area of the tray, for this he needs HCF of 130 and 420

$420 = 130 \times 3 + 30$

$130 = 30 \times 4 + 10$

$30 = 10{\times}3 + 0$

So HCF $= 10$

So he can placed 10-10 barfis in each stack.

EXERCISE:

1. Use Euclid's division algorithm to find the HCF of:
     i) 231, 396 **ii)** 196 & 38220   **iii)** 135 & 255   **iv)** 234,306
2. An army contingent of 616 members is to march behind an army band of 32 members in a parade. The two groups are to march in the same number of columns. What is the maximum number of columns in which they can march?