## Todays Content:

- Intro
- → Flip
- Sort chij
- + hererse String
- + Longest Palandromic Substitus

Characters: ASCII Values 
$$32 = 25 = (14.5)$$
,  $1419 = 29$ 

## In our Discussion:

L. Shring -> chart]

Charch 
$$[5] = \frac{01234}{an|o|o|p}$$

L. Shring  $S = \frac{a|n|o|o|p}{a|n|o|o|p}$ 

L. Shring  $S = \frac{a|n|o|o|p}{a|n|o|o|p}$ 

Our Discussion:

(har 
$$ch = B \rightarrow l$$
 Byte: 8bits

Char  $ch(5) = \frac{0}{a} \frac{23}{a} \frac{4}{a} \frac{2}{a} \frac{2}{a$ 

```
(apital = Small
           Ch[] → Ana Con Da Note: Input contains only small 4
 Toggle
                                                                                                                              Capital Characters
          ch[] → aNAcondA
               Toggle (that S[7]) { T_{\underline{C} \to O(N)} S_{\underline{C} \to O(1)}
                        int n = s. length
                      for (int i=0; i < n; i+1) {
                   ||S[i]|| |
B'-66 01000010 16-98 01100010
  , D, -88 01000 100 , q, - 100 0100 100
    :
- 90 0 1 0 1 1 0 1 0 6 7 - 122 0 1 1 1 1 0 1 0
```

203) Given a char UNIT, which contains only lower Can Alphabets Sort given CNIT

ldeas:

- D Sort Using Bubble Sort To: 0(N2)

Ideas: 
$$S = d a b a c d b$$
  
 $Cn+[26] = 221200.000...00$   
 $S = a a b b c d d$ 

```
SortShing (char SIT) { Final TC = O(N) SC: O(1)
                                Sorting using cut[] - Count bort
   int n = silenem
   1/Step-1, create count array
   Int cnt[26] = fo]

fr(int i=0; i(n); i(1))

int int i=0; i(n); i(n))
    int ind = s[i] - 9;

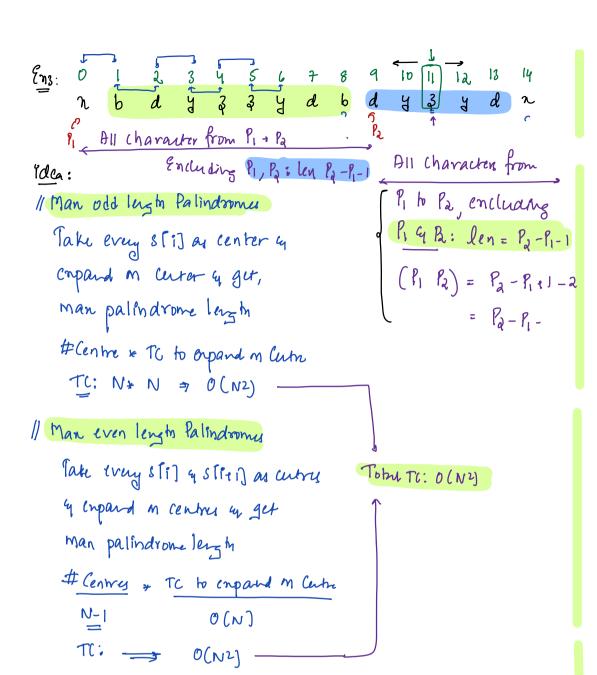
cut[ind] = cut[ind] + 1
  1 Step+2, Cut[] -> sorted Shing
   Pot K=0
    for (in+ i=0;9826;981) & // 9terating in cut [] | Sc:0(1)
     11 cuting free of 'a'ri
        char ch = 'a'ei, is coming cuttil time
       for (Int j= 1; jd= cut [i] ; jt+) { / ent [i] tin
        S[K]=ch;
           K=K+1
   return s;
       i j:[0, cnt[i]) îteratins

0 j:[0, cnt[o]) cnt[o]
       Potul iterations = { (ut[o]+ cut[i]+ cut[z]e -- cut[as] }
```

Substring concept is same as Subarray | Subarray concept m 2) Full String can be Substring 3) A Spryle character can also be a Substrong 30) Check If given substring is Palindrome or Not? En madam nayan lever Cgric mam dad (har ch[1]]: a n a m a d a m s p e p s 1-3 S: start inden of subarray - c: end inden of subarray is Palin (charch[], ints, inti) { => Sc:o(1) while (ste) { if (chrs]!=chre]) h
| return falm
3
S=S+1, e=e-1
Yehem True

40) Given a Strong, Calulate length of longest Palindromer Substrongs

idea: For every substring their palindrome in Not & get man length.



```
not enpand (char S[], int p1, int p2)
                         while (P_{17=0} & P_{1}=0 & P_{1}=0
       int
                                     longlas (char str) &
                             int n= solengh
                             9nt ans = 0/1
                              for (int i=0; ix N; it) & // oad length palindrome
                                               //ssi) is acting as center
                                            ans = man (ans, enpand (s, P1, P2)) levator we can entud
                          fur (int i=0; i2N-1; i41) / leven leigh palindoones
                                        "S[i] 99 S[iti] are centres //9 = N-1, p_1 = N-1, p_2 = N int p_1 = 1, p_3 = 1tl p_4 = 1tl p_5 = 1tl
                                          ans = man (ans, enpand (s, P1, P2))
Tehum ans;

3

1 cogh of longest Palindrown.

1 0(N2) SC: O(1)

Bf expanding Binary

M cereber Searces
```

48) Given a Chr7, Revern word by word [No Entra Spau]
No Inbuilt Sort]

En: ch[]: Love\_hate\_data\_structures

Enz: Chr]: Marry\_ In\_friend