

Date 1

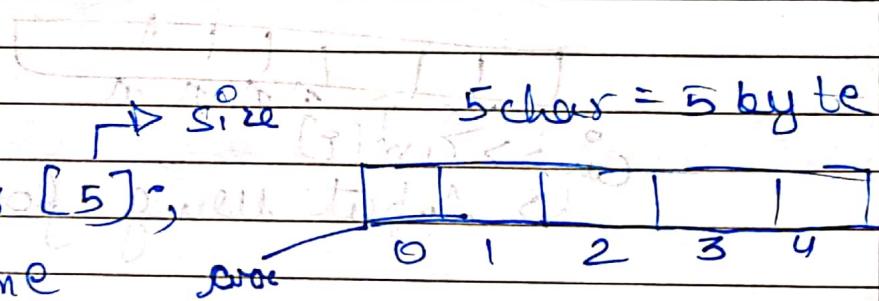
22/6/23 Week 5

Class 1

Char Arrays & String → I

→ char Arrays

char arr[5];
↓ ↓
dt name



1 char → 1 byte

Can place → ${}^6A \rightarrow {}^6Z$, ${}^6A \rightarrow {}^6Z$

${}^6O \rightarrow {}^6Q$, ${}^6- \rightarrow {}^6+,$ etc

→ can place 256 characters

↳ choice (out of 256 only 1 is been placed)

Int Array

Char Array

Input →

for ($i \rightarrow n$)

$cin \rightarrow arr[i]$

$cin \rightarrow arr;$

No Need to run

loop

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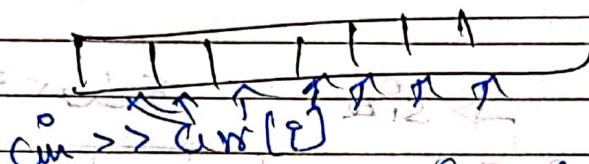
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Pointing →

for(i → cn)

cout <= arr[i]

int arr[10]



cin >> arr[i] → Input using for loop

char ch[5];

l o v e - ends

Also can take input like array

for-loop

eg. char ch[5]; → send lone ke baad Null characters

ch | d | o | g | 6 | 0 | → stores

cin >> ch ← dog - right

★ Null character → null character off

Termination of string

6 | 0

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Date 2

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That's why printing of char array stop at '\0' → null character

Char array

↳ creation → char ch[10];

→ access → ch[index];

→ cout << ch → cout << ch → after that 6\0

→ point → cout << ch

Note:- ASCII value of Null character \0 → 0

Char ch[10] → [B I G] [0] [1] [2] [3] [4] [5] [6] [7] [8] [9]

→ cout << ch → if → Babbar

cout << ch → Babbar

garbage value

char temp = cout[6];

int value = (int) temp;

cout << value;

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Note → Input will stop = space or Enter
or Tab

cin → 6 'n' → enter → new line
→ [] → Tab
→ 6 ' ' → space

cin → ip → k:deep lami
only read
complete line

GetLine() function

↳ only on enter input stops

cin → cin.getline(ch, 10);
where to take input, Maximum size
(char array)

Note → char array can be used over
string because they are faster
& more memory efficient than strings

→ Every integer array thing also work here,
like loops, Nested loops, Two pointer
etc.

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Date 5

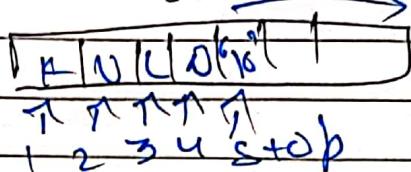
① → Length of String

char ch[100];

cin >> ch ← build



length of ch



stop at Null char

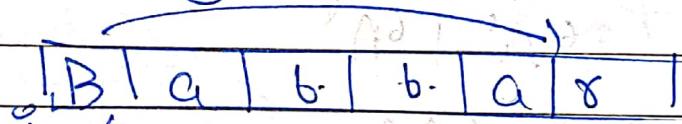
cin.getline(ch, 100); ← count spaces also

Inbuilt function → strlen(ch);

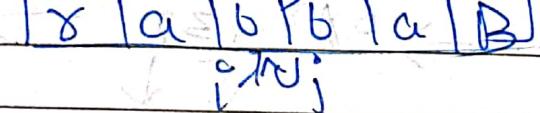
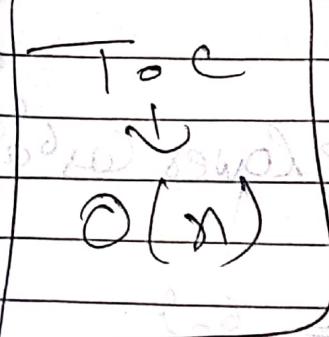
char Array

② → Reverse String →

using two Pointers



while(i <= j)
swap(a[i], a[j])
i++ j--



j < i → stop loop Spiral

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Date.....(6)

Note → Char Array \rightarrow Pass by Reference

Vector \rightarrow Pass by value

(8) Convert c/p to upper Case \rightarrow

$$6A^9 \rightarrow 65 \quad 6a^9 \rightarrow 97$$

lower case $\rightarrow ^6a^9 - 32 \rightarrow$ upper case 'A'

$$\begin{array}{r} 97 \\ - 65 \\ \hline 32 \end{array}$$

$$'C' = 6a^9 + 6A^9 =$$

$$97 + 65 = 162 \rightarrow 'C'$$

(9) Convert to lower Case

upper Case $\rightarrow 6A^9 + 32 \rightarrow$ lower Case 'a'

$$\begin{array}{r} 65 + 97 \\ - 65 \\ \hline 32 \end{array}$$
$$6C^9 - 6A^9 + 6a^9 = 6C^9$$

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⑤ → Replace @ with space

9) $b \rightarrow \text{My}@ \text{Name}@ \text{builder}$

Opp → My Name Kuldeep

Miyata Namie @ kuddeepi

~~Top ↑ return → return ↑~~ ~~return ↑~~ ~~return ↑~~ ~~return ↑~~ ~~return ↑~~ ~~return ↑~~

~~@ top yes ↓ insert - ↴ who who out of loop~~

6 → check Palindrome →

(A) \rightarrow Noon Reversed \leftarrow Noon
Ox

~~(B)~~ → RACE CAR Read Right to RACECAR

(3) → BABBA B

Reft
08

US TAPAT

Left to Right they
give same output

\rightarrow Sequence of char

L-R, R-L

↳ give some output

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Sam

Same

same

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0 1 2 3 4 5 6

TRAIL cycle AIR

ch 0

same

No TOLN

same

Two point

Approach

If (arr[8] == false)

return false

s++, e--

return true;

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Strings → Class, object

→ class of object

Syntax → `String name; // Initializer`

Data Type Variable Name

Note → char Array ← Static in Nature

vector like String ← Dynamic in Nature

Creation → `String name;`

i/p → `cin > name;` (User Input)

print → `cout < name;` (Output)

getline → `getline(cin, name);`

String Var name

Predefined member function

① → length

data = length of the string

`name.length();`

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String name = "Kuldeep";

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(2) → Empty →

name.empty(); → 0 → Not Empty

name.empty(); → 1 → Empty

(3) → At → Access element

name.at(0); → k

(4) → Front & back

name.front(); → k

name.back(); → p

(5) → Append (Concat) →

String str = "Kuldeep"

str2 = "Saini"

str.append(str2); → KuldeepSaini

(6) → Erase

String desc = "The car is in a car".
0 1 2 3 4 5 6 7

desc.erase(4, 3)

↳ No of char want to remove

mean 4 to 4+3 = 4 to 7

2 because 4 included

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(4) → Insert → String don't At index

Problem to desc. insert (8), 6.6 Singh (1) < 61 >

6.6 didn't understand (8), 6.6 Singh (1) < 61 >

String wants to insert something

(8) → pushes back & pop back (8)

Push back (8)

→ pop back (8)

(a) → Find → string = 66 kuldip (8)

String str = 66 kuldip (8)

desc. find ("deep");

↳ Returns int index

Return a NO if that → Not found

(3)

(10) → String are equal

String str1 = 66 kuldip (8)

String str2 = 66 kuldip (8)

If (str1.compare(str2) == 0) {

equal;

else

Not equal

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0 -> They compare equal (apple = capple)

Banana < apple | apple < banana

< 0 -> either the value of 1st char that doesn't match is lower in compared string or all char matches but compared string is short

apple > Banana

> 0 -> 1st char doesn't match is greater or all compared chara matches but compared string is longer

(1) -> Substring ->

→ start & select 4 characters
0 1 2 3 4 5

String str1 = "HelloWorld";

String str2 = str1.substring(2, 4);

str2 → Idee

1 -> Char Array

String

(1) -> It is static like integer Array.

(1) -> It is dynamic like vector

(2) -> char arr = { 'a', 'b', 'c' };

(2) -> string name = "abc". This

(3) -> It is a array

(3) -> It is a class

(4) -> It have but not as many as string have.

(4) -> It has many useful functions

(5) -> Last position

Always belong to Null character \0

(5) -> null character is managed by string class itself.

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~~char~~ char[5];
cin >> ch;
cout < ch;

if(p) → ~~q~~ w¹²³⁴t

if(p) → qw¹²³⁴0
if(p) → qw¹²³⁴0

if(p) → Should be → qw¹²³⁴610
null character

But this will only happen in C++20 compiler

& definable on diff compilers

npos → no position → used in std::find

↳ This constant is defined with a value of

↳ static member constant with greatest possible value for an element of type size_t.

But can be used in for loop

↳ & means until the end of the string

→ ~~for~~

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Digits
Capitals
Lower Case

Compare Syntax →

→ Sts 1 = 6, 2, 3, 4, 5, 6 name
→ Sts 2 =

→ Sts 1. compare (6, 5, 6 name 1)

→ Sts 1 index 6 se 5 length
age choose. kro compare = name

→ Sts 1 compare (Sts 2 & 3) - 5, 5, 6 name

Pseudo code: 1. Sts 1 & 2 → Index 14 ml age

→ Sts 1 compare (6, 5, Sts 2, 4, 5)

1st → Index

length after 6 → 2nd → Index lie age
length

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