Linear search method	Binary search method
The elements need not be in any order	The elements should be in sorted order
Takes more time for the process	Takes very less time for the process
May need to visit all the elements	All the elements are never visited
Suitable when the array is small	Suitable when the array is large

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09 - String Handling And I/O Functions

1. String function getchar ( ) is defined in _____ header file. **[March 2020, Score 1]**

Ans. cstdio

2. Differentiate between 'put( )' and 'write( )' with example. **[March 2020, Score 3]**

Ans. Both functions allow a stream of bytes to flow from memory into an output object. The differences are: put ( ) function is used to display a character whereas write function is used to display a string. put ( ) function takes one argument but, write function needs two arguments.

Syntax: cout.put (character constant / character variable) ;

cout.write (string constant / string variable , size) ;

3. How many bytes are required to store the string, "HELLO WORLD" ? **[July 2019, Score 1]**

Ans. 12

4. Name two input stream functions in C++. **[July 2019, Score 1]**

Ans. get ( ) and getline ( )

5. Consider the following figure and answer the questions : **[July 2019, Score 3]**

My_name

N	I	K	E	T	H	\0			
0	1	2	3	4	5	6	7	8	9

a) Write the declaration statement for the above array in C++.

b) Write the C++ statement to input the string "WELCOME" into the array

c) Name the header file required if the elements of the array are to be printed using puts( ) function.

Ans. a) char My_name[10] ;

b) cin>>My_name " ;

c) cstdio

6. Differentiate between put ( ) and write ( ) with an example. **[March 2019, Score 3]**

Ans. put ( ) function is used to display a character whereas write function is used to display a string. put ( ) function takes one argument whereas write function needs two arguments.

Eg:- char ch,str[20] ;

ch = 'A' ;

str = " Computer ";

cout.write(ch) ; displays 'A'

cout.write(str,20) ; displays "Computer"

7. Name the character function used to accept a string including whitespace.

[July 2018, Score 1]

Ans. gets( )

8. Consider the following statements. **[July 2018, Score 2]**

```
char name [20] ;
cin>>name;
cout<<name ;
```

What will be the output if you input the string "GREEN COMPUTING"? Justify your answer.

Ans. Output will be "GREEN". For cin>> operator, white space is treated as a separator of data. Thus, "GREEN COMMUTING" is treated as two data items, out of which, first data ("GREEN") is stored.

9. Which character is used to delimit the string in memory ? **[March 2018, Score 1]**

Ans. \0 or null character.

10. Distinguish the memory allocation of the following initialization statements.

char name [10] = ”TOM” ; **[March 2018,Score 2]**

char str [ ] = “TOM”;

Ans. In the first statement, 10 memory locations will be allocated and the string “TOM” will be stored in it. The last 6 bytes will be left unused (one used for null character).

But for the second statement, size of the array is not specified and hence only 4 bytes will be allocated (3 bytes for string and 1 for null character).

11. Consider the following C++ program **[July 2017, Score 2]**

```
#include<iostream>
using namespace std;
int main( )
{
   char str ;
   cin>>str ;
   cout<<str ;
}
```

What would be the output if we input the string “Vande Mataram”. Justify your answer.

Ans. Output will be “Vande”. For cin>> operator, white space is treated as a separator of data. Thus, “Vande Mataram” is treated as two data items, out of which, first data (“Vande”) is stored.

12. What is the advantage of using gets ( ) function in C++ program to input string data? Explain with an example. **[March 2017, Score 2]**

Ans. gets( ) function is used to accept a string of characters including white spaces.

Eg:- gets(character_array_name) ; Using this statement, we can input any string with white spaces.

13. a) Write the declaration statement for a variable ‘name’ in C++ to store a string of maximum length 30. **[July2016, Score 1]**

b) Differentiate between the statements cin>>name and gets(name) for reading data to the variable ‘name’. **[Score 2]**

Ans. a) char name[3];

b) cin>>name ; statement can read string values without white spaces only. cin treats white space as a delimiter.

gets( ) ; statement can read string values including white spaces.

14. Consider the following C++ statements: **[March 2016, Score 2]**

```
char word [ 20 ] ;
cin>> word;
cout<<word;
gets(word);
puts(word);
```

If the string entered is “HAPPY NEW YEAR”, predict the output and justify your answer.

Ans. Output will be: “HAPPY”

“HAPPY NEW YEAR”

For cin>> operator, white space is treated as a separator of data. Thus, “HAPPY NEW YEAR” is treated as three data items, out of which, first data (“HAPPY”) is stored.

Since gets( ) can read string values including spaces, it stores “HAPPY NEW YEAR”.

15. my_name is a variable contains a string. Write two different C++ statements to display the string. **[July 2015, Score 2]**

Ans. i) cout<<my_name;

ii) puts(my_name);

16. Read the following code : **[March 2015, Score 2]**

```
char str [ 30 ] ;
cin>>str ;
cout<<str ;
```

If we give input “ Green Computing “, we get the output “ Green “. Why is it so? how can you correct that ?

Ans. for cin>> statement, white space is treated as a separator of data. Thus, “Green Commuting” is treated as two data items, out of which, first data (“Green”) is stored. This can be avoided by using gets() function, which can accept string values including white spaces.

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