1. Write a program in C to show the basic declaration of pointer.

Expected Output :

```
Pointer : Show the basic declaration of pointer :
-------------------------------------------------------
Here is m=10, n and o are two integer variable and *z is an integer

z stores the address of m  = 0x7ffd40630d44

*z stores the value of m = 10

&m is the address of m = 0x7ffd40630d44

&n stores the address of n = 0x7ffd40630d48

&o  stores the address of o = 0x7ffd40630d4c

&z stores the address of z = 0x7ffd40630d50
```

2. Write a program in C to demonstrate how to handle the pointers in the program.

Expected Output :

```
Address of m : 0x7ffcc3ad291c
Value of m : 29

Now ab is assigned with the address of m.
Address of pointer ab : 0x7ffcc3ad291c
Content of pointer ab : 29

The value of m assigned to 34 now.
Address of pointer ab : 0x7ffcc3ad291c
```

Content of pointer ab : 34

The pointer variable ab is assigned with the value 7 now.
Address of m : 0x7ffcc3ad291c
Value of m : 7

3. Write a program in C to demonstrate the use of &(address of) and *(value at address) operator.
Expected Output :
Pointer : Demonstrate the use of & and * operator :
---
m = 300
fx = 300.600006
cht = z

Using & operator :
---
address of m = 0x7ffda2eeeec8
address of fx = 0x7ffda2eeeecc
address of cht = 0x7ffda2eeeec7

Using & and * operator :
---
value at address of m = 300
value at address of fx = 300.600006
value at address of cht = z

Using only pointer variable :
---
address of m = 0x7ffda2eeeec8

address of fx = 0x7ffda2eeeecc
address of cht = 0x7ffda2eeeec7

Using only pointer operator :
---
value at address of m = 300
value at address of fx= 300.600006
value at address of cht= z

4. Write a program in C to add two numbers using pointers.
Test Data :
Input the first number : 5
Input the second number : 6
Expected Output :
The sum of the entered numbers is : 11

5. Write a program in C to add numbers using call by reference.
Test Data :
Input the first number : 5
Input the second number : 6
Expected Output :
The sum of 5 and 6 is 11

6. Write a program in C to find the maximum number between two numbers using a pointer.
Test Data :
Input the first number : 5
Input the second number : 6
Expected Output :
6 is the maximum number.

7. Write a program in C to store n elements in an array and print the elements using pointer.

Test Data :

Input the number of elements to store in the array :5

Input 5 number of elements in the array :

element - 0 : 5

element - 1 : 7

element - 2 : 2

element - 3 : 9

element - 4 : 8

Expected Output :

The elements you entered are :

element - 0 : 5

element - 1 : 7

element - 2 : 2

element - 3 : 9

element - 4 : 8

8. Write a program in C to print all permutations of a given string using pointers.

Expected Output :

The permutations of the string are :

abcd abdc acbd acdb adcb adbc bacd badc bcad bcda bdca bdac cbad cbda cabd cadb cdab cdba db

ca dbac dcba dcab dacb dabc

9. Write a program in C to find the largest element using Dynamic Memory Allocation.

Test Data :

Input total number of elements(1 to 100): 5

Number 1: 5
Number 2: 7
Number 3: 2
Number 4: 9
Number 5: 8
Expected Output :
The Largest element is : 9.00

10. Write a program in C to Calculate the length of the string using a pointer.
Test Data :
Input a string : w3resource
Expected Output :
The length of the given string w3resource
is : 10

11. Write a program in C to swap elements using call by reference.
Test Data :
Input the value of 1st element : 5
Input the value of 2nd element : 6
Input the value of 3rd element : 7
Expected Output :
The value before swapping are :
element 1 = 5
element 2 = 6
element 3 = 7

The value after swapping are :

element 1 = 7
element 2 = 5
element 3 = 6

12. Write a program in C to find the factorial of a given number using pointers.
Test Data :
Input a number : 5
Expected Output :
The Factorial of 5 is : 120

13. Write a program in C to count the number of vowels and consonants in a string using a pointer.
Test Data :
Input a string: string
Expected Output :
Number of vowels : 1
Number of constant : 5

14. Write a program in C to sort an array using Pointer.
Test Data :
testdata
Expected Output :
Test Data :
Input the number of elements to store in the array : 5
Input 5 number of elements in the array :
element - 1 : 25
element - 2 : 45
element - 3 : 89
element - 4 : 15

element - 5 : 82
Expected Output :

The elements in the array after sorting :
element - 1 : 15
element - 2 : 25
element - 3 : 45
element - 4 : 82
element - 5 : 89

15. Write a program in C to show how a function returning pointer.
Test Data :
Input the first number : 5
Input the second number : 6
Expected Output :
The number 6 is larger.

16. Write a program in C to compute the sum of all elements in an array using pointers.
Test Data :
Input the number of elements to store in the array (max 10) : 5
Input 5 number of elements in the array :
element - 1 : 2
element - 2 : 3
element - 3 : 4
element - 4 : 5
element - 5 : 6
Expected Output :
The sum of array is : 20

17. Write a program in C to print the elements of an array in reverse order.

Test Data :

Input the number of elements to store in the array (max 15) : 5

Input 5 number of elements in the array :

element - 1 : 2

element - 2 : 3

element - 3 : 4

element - 4 : 5

element - 5 : 6

Expected Output :

The elements of array in reverse order are :

element - 5 : 6

element - 4 : 5

element - 3 : 4

element - 2 : 3

element - 1 : 2

18. Write a program in C to show the usage of pointer to structure.

Expected Output :

John Alter from Court Street

19. Write a program in C to show a pointer to union.

Expected Output :

Jhon Mc Jhon Mc

20. Write a program in C to show a pointer to an array which contents are pointer to structure.

Expected Output :

Exmployee Name : Alex

Employee ID : 1002

21. Write a program in C to print all the alphabets using a pointer.

Expected Output :

The Alphabets are :

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

22. Write a program in C to print a string in reverse using a pointer.

Test Data :

Input a string : w3resource

Expected Output :

Pointer : Print a string in reverse order :

Input a string : w3resource

Reverse of the string is : ecruoser3w