**1- Can you guess the output of following C program?**

#include <stdio.h>

int main()

{

int var =10;

int \*p;

p= &var;

printf ( "Address of var is: %p", &var);

printf ( "\nAddress of var is: %p", p);

printf ( "\nValue of var is: %d", var);10

printf ( "\nValue of var is: %d", \*p);10

printf ( "\nValue of var is: %d", \*( &var));10

/\* Note I have used %p for p's value as it represents an address\*/

printf( "\nValue of pointer p is: %p", p);

printf ( "\nAddress of pointer p is: %p", &p);

return 0;

}

**2- 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

#include <stdio.h>

int main() {

int num1, num2, sum;

int \*ptr1, \*ptr2;

printf("Input the first number: ");

scanf("%d", &num1);

printf("Input the second number: ");

scanf("%d", &num2);

ptr1 = &num1;

ptr2 = &num2;

sum = \*ptr1 + \*ptr2;

printf("The sum of the entered numbers is: %d\n", sum);

return 0;

}

**3- 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

**#include <stdio.h>**

**int main() {**

**int n, i;**

**printf("Input the number of elements to store in the array: ");**

**scanf("%d", &n);**

**int arr[n]; // Declare an array of size n**

**printf("Input %d number of elements in the array:\n", n);**

**for (i = 0; i < n; i++) {**

**printf("element - %d : ", i);**

**scanf("%d", &arr[i]);**

**}**

**printf("The elements you entered are:\n");**

**for (i = 0; i < n; i++) {**

**printf("element - %d : %d\n", i, \*(arr + i));**

**}**

**return 0;**

**}**

**4- 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

**#include <stdio.h>**

**int main() {**

**char str[100];**

**char \*ptr;**

**int length = 0;**

**printf("Input a string: ");**

**scanf("%s", str);**

**ptr = str;**

**while (\*ptr != '\0') {**

**length++;**

**ptr++;**

**}**

**printf("The length of the given string %s is: %d\n", str, length);**

**return 0;**

**}**

**5- 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

#include <stdio.h>

void swap(int \*a, int \*b);

int main() {

int element1, element2, element3;

printf("Input the value of 1st element: ");

scanf("%d", &element1);

printf("Input the value of 2nd element: ");

scanf("%d", &element2);

printf("Input the value of 3rd element: ");

scanf("%d", &element3);

printf("The values before swapping are:\n");

printf("element 1 = %d\n", element1);

printf("element 2 = %d\n", element2);

printf("element 3 = %d\n", element3);

swap(&element1, &element3);

printf("\nThe values after swapping are:\n");

printf("element 1 = %d\n", element1);

printf("element 2 = %d\n", element2);

printf("element 3 = %d\n", element3);

return 0;

}

void swap(int \*a, int \*b) {

int temp = \*a;

\*a = \*b;

\*b = temp;

}

**6- 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

**#include <stdio.h>**

**int main() {**

**int n , sum = 0;**

**printf("Dizide depolanacak eleman sayısını girin (maksimum 10): ");**

**scanf("%d", &n);**

**if (n > 10 || n < 1) {**

**printf("Eleman sayısı 1 ile 10 arasında olmalıdır.\n");**

**return 1;**

**}**

**int arr[10];**

**printf("Dizide %d adet elemanı girin:\n", n);**

**for (int i = 0; i < n; i++) {**

**printf("eleman - %d : ", i + 1);**

**scanf("%d", &arr[i]);**

**}**

**int \*ptr = arr;**

**for (int i = 0; i < n; i++) {**

**sum += \*(ptr + i);**

**}**

**printf("Dizinin toplamı : %d\n", sum);**

**return 0;**

**}**

**7- 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 :

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Input a string : w3resource

Reverse of the string is : ecruoser3w

**#include <stdio.h>**

**int main() {**

**char str[100];**

**char \*ptr;**

**printf("Bir string girin: ");**

**scanf("%s", str);**

**ptr = str;**

**while (\*ptr != '\0') {**

**ptr++;**

**}**

**ptr--;**

**printf("Tersine cevrilmis string: ");**

**while (ptr >= str) {**

**printf("%c", \*ptr);**

**ptr--;**

**}**

**printf("\n");**

**return 0;**

**}**