

PF Lab 9: Pointers /address of operator (&)/ dereference operator (*)

Question 1: Write a program to find out the smallest among three numbers using pointers and functions. (Make use of three variables, assign their addresses to three pointers, and access values using dereference (*) operator as above).

Use this Function Prototype: `void greatest (int *v1, int * v2, int * v3);`

Using this function call, if a, b, c are three integers input from user.

`greatest (&a, &b, &c);`

Question 2: Write a program that swaps two numbers using functions and pointers.

Use this Function Prototype: `void swap (int *v1, int * v2);`

Using this function call, if a, b are two integers input from user.

`swap (&a, &b);`

Question 3: Create a function that calculate sum of two numbers, and return the sum. (Note: Make use of pointers to access values of both numbers instead of direct access).

Use this Function Prototype: `int calc_sum (int *v1, int * v2);`

Using this function call, if a, b are two integers input from user.

`cout<<"Sum of "<<a<<" and "<<b<<" is : "<<calc_sum(&a, &b);`

Question 4: Write a function that receives address of an initialized integer variable in a pointer and calculate the factorial of that number using pointer. (Note: Make use of pointer to access value of the number instead of direct access).

Use this Function Prototype: `int factorial (int *v1);`

Using this function call, if a is an integer variable input from user.

`cout<<" Factorial of "<<a<<" is : "<<factorial(&a);`

Question 5: Write a function that prints all the numbers from 1 to 10 using pointer and loop.

Use this Function Prototype: `void print_numbers (int *v1);`

Using this function call, if a is an integer variable , and have initial value set to 1

`print_numbers(&a);`

Question 6: Write a function that prints all upper case alphabets using pointer and loop

Use this Function Prototype: `void print_upper (char *v1);`

Using this function call, if a is a character variable, and have initial value set to 'A'

`print_upper(&a);`

Question 7: Write a function that converts any lower_case alphabet into its corresponding upper case using pointer.

Use this Function Prototype: `void convert_upper (char *v1);`

Using this function call, if a is a character variable, and have initial value entered by user.

`convert_upper(&a);`

Question 8: Write a function that sorts three numbers input by user .(Make use of pointers to access these numbers).

Use this Function Prototype: `void sort_three (int *v1,int* v2, int * v3);`

Using this function call, if a, b and c are three integers initialized by user

`Sort_three (&a, &b, &c);`

Question 8: Write a function that finds second maximum numbers amongst three numbers input by user. (Make use of pointers to access these numbers/ You can use array if it has been discussed in class).

Use this Function Prototype: `void sec_maximum (int *v1,int* v2, int * v3);`

Using this function call, if a, b and c are three integers initialized by user

`sec_maximum (&a, &b, &c);`

// For those who are using arrays use this prototype

Use this Function Prototype: `void sec_maximum (int *v1);`

Using this function call, if num is an array of three integers initialized by user

`sec_maximum (&num[0]);`

Or

`Sec_maximum(num);`