

Pointer :-

Pointer is used to points the address of the value stored anywhere in the computer memory. To obtain the value stored at location is known as dereferencing pointer.

Pointer arithmetic :-

4 arithmetic operators that can be used in pointers : ++, --, +, -

Array of pointers :- You can define array of to hold a number of pointers.

Pointer to pointer :- C allows you to have pointer on a pointer and so on.

a → [10] → value
2000 → address

b → []
3000

b = &a → [] → [] [b points a]
3000 2000

Program

Pointer →

```
#include <stdio.h>
int main()
```

```

}
int a = 5;
int *b;
b = &a;
printf("value of a = %d\n", a);
printf("value of a = %d\n", *(&a));
printf("value of a = %d\n", *b);
printf("address of a = %u\n", &a);
printf("address of a = %d\n", b);
printf("address of b = %u\n", &b);
printf("value of b = address of a = %u", b);
return 0;
}

```

output

```

value of a = 5
value of a = 5
address of a = 30104g42g2
address of a = -1284473004
address of b = 30104g42g6
value of b = address of a = 30104g42g2.

```

Program :-

Pointer to pointer :-

#include <stdio.h>

int main()

{

int a = 5;

int *b;

int **c;


```
b = &a;  
c = &b;  
printf("value of a = %d\n", a);  
printf("value of b = address of a = %u\n", b);  
printf("value of c = address of b = %u\n", c);  
printf("address of b = %u\n", c);  
printf("address of c = %u\n", &c);  
return 0;  
}
```

output →

value of a = 5
value of b = address of a = 2831685116
value of c = address of b = 2831685120
address of b = 2831685120
address of c = 2831685128

Structure :-

A structure is a composite data type that defines a grouped list of variables that are to be placed under one name in block of memory.

Program :-

structure →

struct structure-name

{

data-type member 1;

data-type member 2;