**Declare pointers:**

func main() {

var pointerv \*int

fmt.Println("Default value of pointer is:",pointerv) // Default value of pointer is: <nil>

}

**Initialize pointers:**

func main() {

a:= 10

var pointerv \*int

pointerv = &a

//1

fmt.Println(pointerv) // 0x1184e068

//2

fmt.Println(&pointerv) // 0x1183e0f8

}

**Dereferencing pointers:**

func main() {

a:= 10

var pointerv \*int

pointerv = &a

fmt.Println(pointerv) // 0x1184e068

fmt.Println(\*pointerv) // 10

}

**Manipulating pointers:**

func main() {

a:= 10

var pointerv \*int

pointerv = &a

fmt.Println(\*pointerv) // 10

\*pointerv = 30

fmt.Println("Afer assigning new value")

fmt.Println(\*pointerv) // 30

}

**Pointer with new:**

func main() {

var a int

pointerv:= &a

fmt.Println(pointerv) // 0x1184e068

pointerv = new(int)

fmt.Println(pointerv) // 0x1184e09c

fmt.Println(\*pointerv) // 0

\*pointerv =10

fmt.Println(\*pointerv) // 10

}

**Nested pointers:**

func main() {

var a int

pointerv:= &a

fmt.Println("value of pointerv:", pointerv) // value of pointerv: 0x1184e068

fmt.Println("Address of pointerv:", &pointerv) // Address of pointerv: 0x1183e0f8

pointerv1 := &pointerv

fmt.Println("value of pointerv1:", pointerv1) // value of pointerv1: 0x1183e0f8

fmt.Println("Address of pointerv1:", &pointerv1) // Address of pointerv1: 0x1183e108

pointerv2 := &pointerv1

fmt.Println("value of pointerv2:", pointerv2) // value of pointerv2: 0x1183e108

fmt.Println("Address of pointerv2:", &pointerv2) // Address of pointerv2: 0x1183e110

}

**Array of pointer:**

func main() {

var a, b int

var pointerv[4] \*int

pointerv[0] = &a

pointerv[3] = &b

fmt.Println(pointerv) // [0x11810088 <nil> <nil> 0x1181008c]

}

**Passing pointer to function:**

//Passing by value

func main() {

a := "Welcome world"

pointerv := &a

fmt.Println("value of a is:", \*pointerv)

changeVal(a)

fmt.Println("After modification, value of a is:", \*pointerv)

}

func changeVal(y string){

y = "Hello Go!"

fmt.Println("changed value is:", y)

}

func main() {

a := "Welcome world"

pointerv := &a

fmt.Println("Value of a is:", \*pointerv)

changeVal(pointerv)

fmt.Println("After modification, value of a is:", \*pointerv)

}

func changeVal(y \*string){

\*y = "Hello Go!"

fmt.Println("Changed value is:", \*y)

}