Golang Session

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Topic : Converting and Checking Types

Converting to different types

- Package strconv implements conversions to and from string representations of basic data types. Atoi is equivalent to ParseInt(s, 10, 0), converted to type int. ParseInt interprets a string s in the given base (0, 2 to 36) and bit size (0 to 64) and returns the corresponding value i.

Program

```
package main
import "strconv"
func main() {
        strVar := "100"
        intVar, _ := strconv.Atoi(strVar)
        strVar1 := "-52541"
        intVar1, _ := strconv.ParseInt(strVar1, 10, 32)
        strVar2 := "1010101010101010"
        intVar2, _ := strconv.ParseInt(strVar2, 10, 64)
}
```

Converting string to float

```
package main
import (
        "fmt"
        "strconv"
)
func main() {
        s := "3.1415926535"
        f, _ := strconv.ParseFloat(s, 8)
        fmt.Printf("%T, %v\n", f, f)
        s1 := "-3.141"
        f1, _ := strconv.ParseFloat(s1, 8)
        fmt.Printf("%T, %v\n", f1, f1)
        s2 := "-3.141"
        f2, _ := strconv.ParseFloat(s2, 32)
        fmt.Printf("%T, %v\n", f2, f2)
}
```

Converting String to Boolean

```
package main
import (
        "fmt"
        "strconv"
)
func main() {
        s1 := "true"
        b1, _ := strconv.ParseBool(s1)
        fmt.Printf("%T, %v\n", b1, b1)
        s2 := "t"
        b2, _ := strconv.ParseBool(s2)
        fmt.Printf("%T, %v\n", b2, b2)
        s3 := "0"
        b3, _ := strconv.ParseBool(s3)
        fmt.Printf("%T, %v\n", b3, b3)
        s4 := "F"
        b4, _ := strconv.ParseBool(s4)
        fmt.Printf("%T, %v\n", b4, b4)
}
```

Converting Boolean to String

```
package main
import (
        "fmt"
        "reflect"
        "strconv"
)
func main() {
        var b bool = true
        fmt.Println(reflect.TypeOf(b))
        var s string = strconv.FormatBool(true)
        fmt.Println(reflect.TypeOf(s))
}
```

Converting float to string

```
package main
import (
        "fmt"
        "reflect"
        "strconv"
)
func main() {
        var f float64 = 3.1415926535
        fmt.Println(reflect.TypeOf(f))
        fmt.Println(f)
        var s string = strconv.FormatFloat(f, 'E', -1, 32)
        fmt.Println(reflect.TypeOf(s))
        fmt.Println(s)
}
```

Converting Integer to String

```
package main
import (
        "fmt"
        "reflect"
        "strconv"
)
func main() {
        var i int64 = -654
        fmt.Println(reflect.TypeOf(i))
        fmt.Println(i)
        var s string = strconv.FormatInt(i, 10)
        fmt.Println(reflect.TypeOf(s))
        fmt.Println(s)
}
```

Convert Int data type to Int16 Int32 Int64

```
package main
import (
        "fmt"
        "reflect"
)
func main() {
        var i int = 10
        fmt.Println(reflect.TypeOf(i))
        i16 := int16(i)
        fmt.Println(reflect.TypeOf(i16))
        i32 := int32(i)
        fmt.Println(reflect.TypeOf(i32))
        i64 := int64(i)
        fmt.Println(reflect.TypeOf(i64))
}
```

Convert Float32 to Float64 and Float64 to Float32

```
package main
import (
        "fmt"
        "reflect"
)
func main() {
        var f32 float32 = 10.6556
        fmt.Println(reflect.TypeOf(f32))
        f64 := float64(f32)
        fmt.Println(reflect.TypeOf(f64))
        f64 = 1097.655698798798
        fmt.Println(f64)
        f32 = float32(f64)
        fmt.Println(f32)
}
```

Converting Int data type to Float in Go

```
package main
import (
        "fmt"
        "reflect"
)
func main() {
        var f32 float32 = 10.6556
        fmt.Println(reflect.TypeOf(f32))
        i32 := int32(f32)
        fmt.Println(reflect.TypeOf(i32))
        fmt.Println(i32)
        f64 := float64(i32)
        fmt.Println(reflect.TypeOf(f64))
}
```