



Programación Funcional y Lógica.

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Practica 2.4 Programación en Go Lang.

Programa 1.

Impresión numeros primos con go rutinas; en este caso numeros que sean primos del rango del 1 al 200,000.

```
PowerShell 7 (x64)
1 93169 93179 93187 93199 93229 93239 93241 93251 93253 93257 93263 93281 93283 93287 93307 93319 93323 93329 93337 9337
1 93377 93383 93407 93419 93427 93463 93479 93481 93487 93491 93493 93497 93503 93523 93529 93553 93557 93559 93563 9358
1 93601 93607 93629 93637 93683 93701 93703 93719 93739 93761 93763 93787 93809 93811 93827 93851 93871 93887 93889 9389
3 93901 93911 93913 93923 93937 93941 93949 93967 93971 93979 93983 93997 94007 94009 94033 94049 94057 94063 94079 9409
9 94109 94111 94117 94121 94151 94153 94169 94201 94207 94219 94229 94253 94261 94273 94291 94307 94309 94321 94327 9433
1 94343 94349 94351 94379 94397 94399 94421 94427 94433 94439 94441 94447 94463 94477 94483 94513 94529 94531 94541 9454
3 94547 94559 94561 94573 94583 94597 94603 94613 94621 94649 94651 94687 94693 94709 94723 94727 94747 94771 94777 9478
1 94789 94793 94811 94819 94823 94837 94841 94847 94849 94873 94889 94903 94907 94933 94949 94951 94961 94993 94999 9500
3 95009 95021 95027 95063 95071 95083 95087 95089 95093 95101 95107 95111 95131 95143 95153 95177 95189 95191 95203 9521
3 95219 95231 95233 95239 95257 95261 95267 95273 95279 95287 95311 95317 95327 95339 95369 95383 95393 95401 95413 9541
9 95429 95441 95443 95461 95467 95471 95479 95483 95507 95527 95531 95539 95549 95561 95569 95581 95597 95603 95617 9562
1 95629 95633 95651 95701 95707 95713 95717 95723 95731 95737 95747 95773 95783 95789 95791 95801 95803 95813 95819 9585
7 95869 95873 95881 95891 95911 95917 95923 95929 95947 95957 95959 95971 95987 95989 96001 96013 96017 96043 96053 9605
9 96079 96097 96137 96149 96157 96167 96179 96181 96199 96211 96221 96223 96233 96259 96263 96269 96281 96289 96293 9632
3 96329 96331 96337 96353 96377 96401 96419 96431 96443 96451 96457 96461 96469 96479 96487 96493 96497 96517 96527 9655
3 96557 96581 96587 96589 96601 96643 96661 96667 96671 96697 96703 96731 96737 96739 96749 96757 96763 96769 96779 9678
7 96797 96799 96821 96823 96827 96847 96851 96857 96893 96907 96911 96931 96953 96959 96973 96979 96989 96997 97001 9700
3 97007 97021 97039 97073 97081 97103 97117 97127 97151 97157 97159 97169 97171 97177 97187 97213 97231 97241 97259 9728
3 97301 97303 97327 97367 97369 97373 97379 97381 97387 97397 97423 97429 97441 97453 97459 97463 97499 97501 97511 9752
3 97547 97549 97553 97561 97571 97577 97579 97583 97607 97609 97613 97649 97651 97673 97687 97711 97729 97771 97777 9778
7 97789 97813 97829 97841 97843 97847 97849 97859 97861 97871 97879 97883 97919 97927 97931 97943 97961 97967 97973 9798
7 98009 98011 98017 98041 98047 98057 98081 98101 98123 98129 98143 98179 98207 98213 98221 98227 98251 98257 98269 9829
7 98299 98317 98321 98323 98327 98347 98369 98377 98387 98389 98407 98411 98419 98429 98443 98453 98459 98467 98473 9847
9 98491 98507 98519 98533 98543 98561 98563 98573 98597 98621 98627 98639 98641 98663 98669 98689 98711 98713 98717 9872
9 98731 98737 98773 98779 98801 98807 98809 98837 98849 98867 98869 98873 98887 98893 98897 98899 98909 98911 98927 9892
9 98939 98947 98953 98963 98981 98993 98999 99013 99017 99023 99041 99053 99079 99083 99089 99103 99109 99119 99131 9913
3 99137 99139 99149 99173 99181 99191 99223 99233 99241 99251 99257 99259 99277 99289 99317 99347 99349 99367 99371 9937
7 99391 99397 99401 99409 99431 99439 99469 99487 99497 99523 99527 99529 99551 99559 99563 99571 99577 99581 99607 9961
1 99623 99643 99661 99667 99679 99689 99707 99709 99713 99719 99721 99733 99761 99767 99787 99793 99809 99817 99823 9982
9 99833 99839 99859 99871 99877 99881 99901 99907 99923 99929 99961 99971 99989 99991
```

```
PowerShell 7 (x64)
190837 190843 190871 190889 190891 190901 190909 190913 190921 190979 190997 191021 191027 191033 191039 191047 191057 191071 191089 19
1899 191119 191123 191137 191141 191143 191161 191173 191189 191227 191231 191237 191249 191251 191281 191297 191299 191339 191341 1913
53 191413 191441 191447 191449 191453 191459 191461 191467 191473 191491 191497 191507 191509 191519 191531 191533 191537 191551 191561
191563 191579 191599 191621 191627 191657 191669 191671 191677 191689 191693 191699 191707 191717 191747 191749 191773 191783 191791 1
91801 191803 191827 191831 191833 191837 191861 191899 191903 191911 191929 191953 191969 191977 191999 192007 192013 192029 192037 192
043 192047 192053 192091 192097 192103 192113 192121 192133 192149 192161 192173 192187 192191 192193 192229 192233 192239 192251 19225
9 192263 192271 192307 192317 192319 192323 192341 192343 192347 192373 192377 192383 192391 192407 192431 192461 192463 192497 192499
192529 192539 192547 192553 192557 192571 192581 192583 192587 192601 192611 192613 192617 192629 192631 192637 192667 192677 192697 19
2737 192743 192749 192757 192767 192781 192791 192799 192811 192817 192833 192847 192853 192859 192877 192883 192887 192889 192917 1929
23 192931 192949 192961 192971 192977 192979 192991 193003 193009 193013 193031 193043 193051 193057 193073 193093 193133 193139 193147
193153 193163 193181 193183 193189 193201 193243 193247 193261 193283 193301 193327 193337 193357 193367 193373 193379 193381 193387 1
93393 193423 193433 193441 193447 193451 193463 193469 193493 193507 193513 193541 193549 193559 193573 193577 193597 193601 193603 193
607 193619 193649 193663 193679 193703 193723 193727 193741 193751 193757 193763 193771 193789 193793 193799 193811 193813 193841 19384
7 193859 193861 193871 193873 193877 193883 193891 193937 193939 193943 193951 193957 193979 193993 194003 194017 194027 194057 194069
194071 194083 194087 194093 194101 194113 194119 194141 194149 194167 194179 194197 194203 194239 194263 194267 194269 194309 194323 19
4353 194371 194377 194413 194431 194443 194471 194479 194483 194507 194521 194527 194543 194569 194581 194591 194609 194647 194653 1946
59 194671 194681 194683 194687 194707 194713 194717 194723 194729 194749 194767 194771 194809 194813 194819 194827 194839 194861 194863
194867 194869 194891 194899 194911 194917 194933 194963 194977 194981 194989 195023 195029 195043 195047 195049 195053 195071 195077 1
95089 195103 195121 195127 195131 195137 195157 195161 195163 195193 195197 195203 195229 195241 195253 195259 195271 195277 195281 195
311 195319 195329 195341 195343 195353 195359 195389 195401 195407 195413 195427 195443 195457 195469 195479 195493 195497 195511 19552
7 195539 195541 195581 195593 195599 195659 195677 195691 195697 195709 195731 195733 195737 195739 195743 195751 195761 195781 195787
195791 195809 195817 195863 195869 195883 195887 195893 195907 195913 195919 195929 195931 195967 195971 195973 195977 195991 195997 19
6003 196033 196039 196043 196051 196073 196081 196087 196111 196117 196139 196159 196169 196171 196177 196181 196187 196193 196201 1962
47 196271 196277 196279 196291 196303 196307 196331 196337 196379 196387 196429 196439 196453 196459 196477 196499 196501 196519 196523
196541 196543 196549 196561 196579 196583 196597 196613 196643 196657 196661 196663 196681 196687 196699 196709 196717 196727 196739 1
96751 196769 196771 196799 196817 196831 196837 196853 196871 196873 196879 196901 196907 196919 196927 196961 196991 196993 197003 197
009 197023 197033 197059 197063 197077 197083 197089 197101 197117 197123 197137 197147 197159 197161 197203 197207 197221 197233 19724
3 197257 197261 197269 197273 197279 197293 197297 197299 197311 197339 197341 197347 197359 197369 197371 197381 197383 197389 197419
197423 197441 197453 197479 197507 197521 197539 197551 197567 197569 197573 197597 197599 197609 197621 197641 197647 197651 197677 19
7683 197689 197699 197711 197713 197741 197753 197759 197767 197773 197779 197803 197807 197831 197837 197887 197891 197893 197909 1979
21 197927 197933 197947 197957 197959 197963 197969 197971 198013 198017 198031 198043 198047 198073 198083 198091 198097 198109 198127
198139 198173 198179 198193 198197 198221 198223 198241 198251 198257 198259 198277 198281 198301 198313 198323 198337 198347 198349 1
98377 198391 198397 198409 198413 198427 198437 198439 198461 198463 198469 198479 198491 198503 198529 198533 198553 198571 198589 198
593 198599 198613 198623 198637 198641 198647 198659 198673 198689 198701 198719 198733 198761 198769 198811 198817 198823 198827 19882
9 198833 198839 198841 198851 198859 198899 198901 198929 198937 198941 198943 198953 198959 198967 198971 198977 198997 199021 199033
199037 199039 199049 199081 199103 199109 199151 199153 199181 199193 199207 199211 199247 199261 199267 199289 199313 199321 199337 19
9343 199357 199373 199379 199399 199403 199411 199417 199429 199447 199453 199457 199483 199487 199489 199499 199501 199523 199559 1995
67 199583 199601 199603 199621 199637 199657 199669 199673 199679 199687 199721 199729 199739 199741 199751 199753 199777 199783
199799 199807 199811 199813 199819 199831 199853 199873 199877 199889 199909 199921 199931 199933 199961 199967 199999
PS C:\Users\luiss\Desktop>
```

package main

import "fmt"

import "time"

func Primo(numero int){

var contador int

for i:=1;i<=numero;i++){

if numero % i ==0{

contador++

}

}

if contador==2 {

```
    fmt.Print(numero," ")
}
}
```

```
func Buscar(inicio, fin int){
    for i:=inicio; i<=fin; i++){
        Primo(i)
    }
}
```

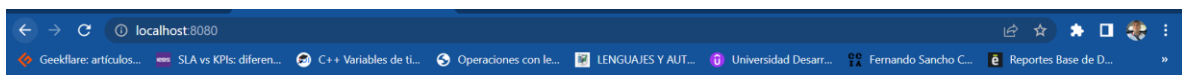
```
func main () {
    go Buscar(1,100000)
    time.Sleep(100* time.Second)
    go Buscar(100001, 200000)
    time.Sleep(100* time.Second)
}
```

Programa 2.

Raíces con formula general ; 1, -5, 6= 3,2 respectivamente.



A screenshot of a web browser window. The address bar shows 'localhost:8080'. The browser has several tabs open, including 'Geekflare: artículos...', 'SLA vs KPIs: diferen...', 'C++ Variables de ti...', 'Operaciones con le...', 'LENGUAJES Y AUT...', 'Universidad Desarr...', 'Fernando Sancho C...', and 'Reportes Base de D...'. Below the tabs, there is a form with three input fields labeled 'Ingresa a', 'Ingresa b', and 'Ingresa c', followed by a button labeled 'enviar'.



A screenshot of a web browser window, identical to the one above. It shows the same browser interface with the address bar at 'localhost:8080' and the same set of tabs. The form below the tabs also contains the same three input fields ('Ingresa a', 'Ingresa b', 'Ingresa c') and the 'enviar' button.

Las raices son 3.000000 y 2.000000

```
package main
```

```
import "fmt"
```

```
import "math"

import "html/template"

import "net/http"

import "strconv"


func chicharronera(w http.ResponseWriter, r *http.Request){

    fmt.Println("method:", r.Method)

    if r.Method == "GET" {
        t, _ := template.ParseFiles("raices.html")
        t.Execute(w, nil)
    } else {
        r.ParseForm()

        a, err := strconv.ParseFloat(r.FormValue("a"),64)

        if err != nil {
            // handle error
        }

        b,err := strconv.ParseFloat(r.FormValue("b"),64)

        if err != nil {
            // handle error
        }

        c, err := strconv.ParseFloat(r.FormValue("c"),64)

        if err != nil {
            //handle error
        }
    }
}
```

```
var x1 float64
```

```
var x2 float64
```

```
x1=(-b+(math.Sqrt(b*b-4*a*c)))/(2*a);
```

```
x2=(-b-(math.Sqrt(b*b-4*a*c)))/(2*a);
```

```
fmt.Fprintf(w,"<h1>Las raices son %f y %f </h1>", x1,x2)
```

```
}
```

```
}
```

```
func main(){
```

```
http.HandleFunc("/", chicharronera)
```

```
http.ListenAndServe(":8080", nil)
```

```
}
```

```
-----HTML-----
```

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
    <meta charset="UTF-8">
```

```
    <title>Raices con formula general </title>
```

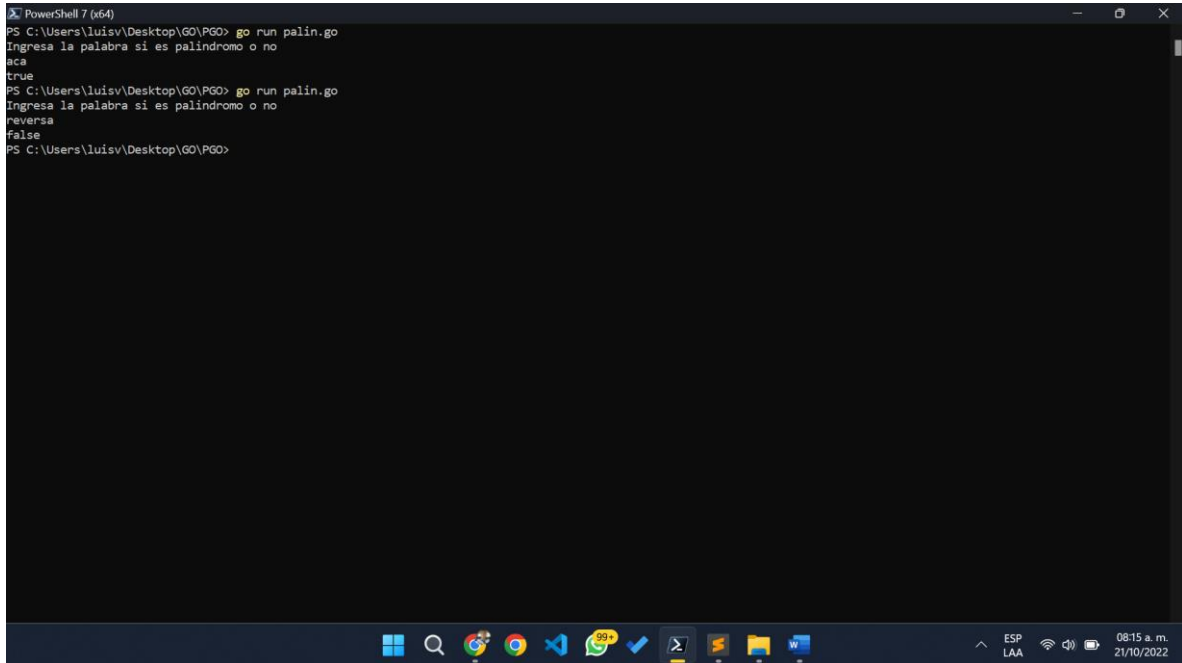
```
</head>
```

```
<body>
  <div>
    <form action="/" method="POST" >
      <label>Ingresa a<input type="text" name="a" value=""></label>
      <label>Ingresa b<input type="text" name="b" value=""></label>
      <label>Ingresa c<input type="text" name="c" value=""></label>
      <input type="submit" value="enviar">

    </form>
  </div>
</body>
</html>
```

Programa 3.

Busca palabras que son Palíndromos ; en este caso la palabra “aca”.



```
PowerShell 7 (x64)
PS C:\Users\luisv\Desktop\GO\PGO> go run palin.go
Ingresa la palabra si es palindromo o no
aca
true
PS C:\Users\luisv\Desktop\GO\PGO> go run palin.go
Ingresa la palabra si es palindromo o no
reversa
false
PS C:\Users\luisv\Desktop\GO\PGO>
```

```
package main
```

```
import "fmt"
```

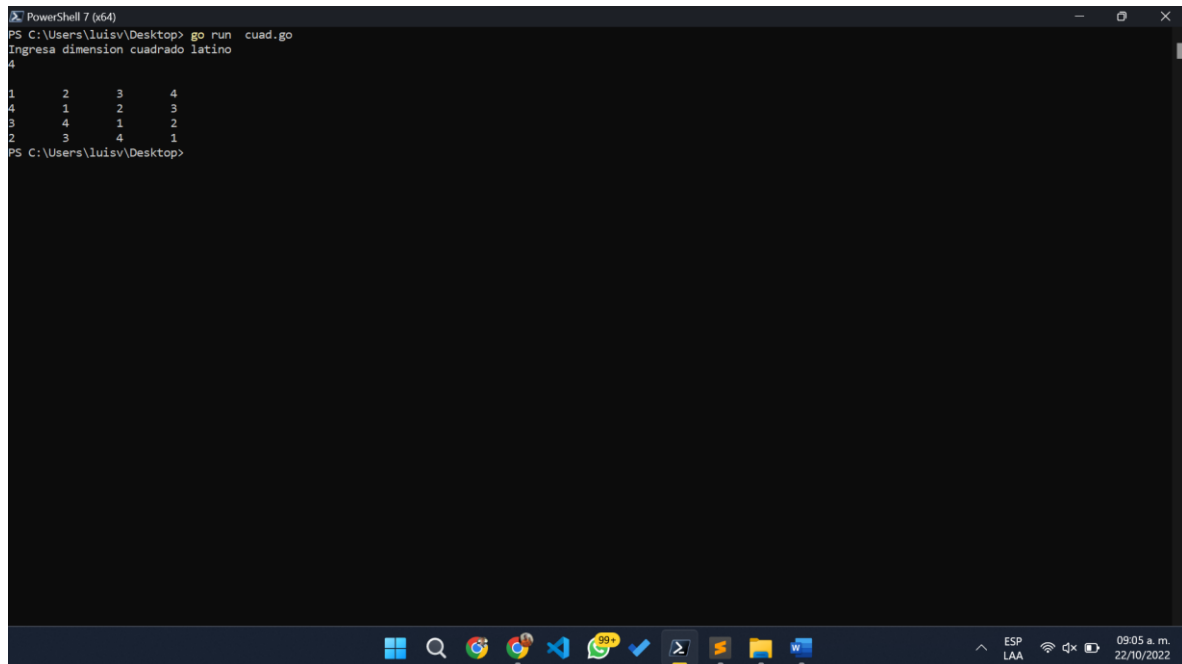
```
func Palindromo(str string) bool {
    reversedStr := ""
    for i := len(str)-1; i >= 0; i-- {
        reversedStr += string(str[i])
    }
}
```

```
for i := range(str) {  
    if str[i] != reversedStr[i] {  
        return false  
    }  
}  
return true  
}
```

```
func main () {  
    var a string  
    fmt.Println("Ingresa la palabra si es palindromo o no ")  
    fmt.Scan(&a)  
    resultado := Palindromo(a)  
    fmt.Println(resultado)  
}
```

Programa 4.

Imprime el cuadrado latino de orden n .



```
PowerShell 7 (x64)
PS C:\Users\luisv\Desktop> go run cuad.go
Ingresa dimension cuadrado latino
4
1 2 3 4
4 1 2 3
3 4 1 2
2 3 4 1
PS C:\Users\luisv\Desktop>
```

```
package main
```

```
import "fmt"
```

```
var m int
```

```
func main () {
```

```
var dim int
```

```
var k int
```

```
var p int
```

```
for {
```

```
fmt.Print("Ingresa dimension cuadrado latino")
```

```
fmt.Scan(&dim)
```

```
fmt.Print("\n")
```

```
    if dim >=2 {
```

```
        k= dim
```

```
        p=0
```

```
        m=0
```

```
            break
```

```
    }
```

```
}
```

```
for i :=1; i<=dim; i++){
```

```
    if i==1{
```

```
        for j:=1; j<=dim; j++){
```

```
            fmt.Print(j, "\t")
```

```
        }
```

```
    }else{
```

```
        for j:=k+1; j<=dim; j++){
```

```
            fmt.Print(j, "\t")
```

```
        }
```

```
        for m := 1; m<=dim-p; m++){
```

```
            fmt.Print(m, "\t")
```

```
        }
```

```
    }
```

```
    k = k-1
```

```
    p=p+1
```

```
        fmt.Print("\n")
    }
}
```

Conclusiones:

Como se pudo demostrar el hacer distintos programas que ejecuten distintas tareas, ayuda al programador en particular a poder ejercitar su lógica de programación, así como a entrenar sus habilidades blandas de intercomunicación, de búsqueda e investigación, así como de nuevas habilidades en el desarrollo de su perfil profesional.

Adicional a esto; se pudo constatar que el Lenguaje de programación GO es un lenguaje fuertemente tipado, hecho con robustez y que obliga al usuario del mismo a generar más y mejores prácticas de programación.