



Carátula para entrega de prácticas

Facultad de Ingeniería

Laboratorio de docencia

Laboratorios de computación salas A y B

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Profesor:

Fundamentos de programación

Asignatura:

3

Grupo:

10

No de Práctica(s):

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Integrante(s):

No aplica

*No. de Equipo de
cómputo empleado:*

No. de Lista o Brigada:

Primero

Semestre:

07 de Diciembre de 2020

Fecha de entrega:

Observaciones:

CALIFICACIÓN: _____

Depuración de programas

Objetivo:

Aprender las técnicas básicas de depuración de programas en C para revisar de manera precisa el flujo de ejecución de un programa y el valor de las variables; en su caso, corregir posibles errores.

Introducción:

Durante la codificación se pueden cometer errores, los programadores saben que se pueden dar ciertos errores, por lo tanto lo que se puede hacer es ejecutar poco a poco, se comprueba si tienen errores, si es así se depuran y corregimos.

Actividad:

```
Symbol del sistema - gdb ./calculadora
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc -g -o calculadora calculadora.c
GNU gdb (GDB) 7.6.1
Copyright (C) 2012 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:\Users\dellR\Desktop\LenguajeC\Ejemplos\calculadora.exe...done.
(gdb) list
1 #include<stdio.h>
2 int main ()
3 {
4     //Declarar variables a utilizar
5     int t1,t2,ress,resr,resm,resd,resso;
6     char ao=162;
7
8     //Mensaje de entrada
9     printf("\n\n\t\t\tCalculadora\n\n");
10
(gdb) b 5
Breakpoint 1 at 0x40141f: file calculadora.c, line 5.
(gdb) d
Delete all breakpoints? (y or n) n
(gdb) clear
No source file specified.
(gdb) info line 8
Line 8 of "calculadora.c" is at address 0x401424 <main+20> but contains no code.
(gdb) info line 10
Line 10 of "calculadora.c" is at address 0x401430 <main+32> but contains no code.
(gdb) run
Starting program: C:\Users\dellR\Desktop\LenguajeC\Ejemplos./calculadora.exe
[New Thread 11868.0x2ac4]
[New Thread 11868.0x1e18]

Breakpoint 1, main () at calculadora.c:6
6         char ao=162;
(gdb) 
```

```
Symbol del sistema
8         //Mensaje de entrada
9         printf("\n\n\t\t\tCalculadora\n\n");
10
(gdb) b 5
Breakpoint 1 at 0x40141f: file calculadora.c, line 5.
(gdb) d
Delete all breakpoints? (y or n) n
(gdb) clear
No source file specified.
(gdb) info line 8
Line 8 of "calculadora.c" is at address 0x401424 <main+20> but contains no code.
(gdb) info line 10
Line 10 of "calculadora.c" is at address 0x401430 <main+32> but contains no code.
(gdb) run
Starting program: C:\Users\dellR\Desktop\LenguajeC\Ejemplos./calculadora.exe
[New Thread 11868.0x2ac4]
[New Thread 11868.0x1e18]

Breakpoint 1, main () at calculadora.c:6
6         char ao=162;
(gdb) c
Continuing.

Calculadora
Valor 1: 7
Valor 2: 1
Suma (7 + 1) = 8
Resta (7 - 1) = 6
Multiplicación (7 * 1) = 7
División (7 / 1) = 7
Modulo = 0 [Inferior 1 (process 11868) exited normally]

(gdb) s
The program is not being run.
(gdb) n
The program is not being run.
(gdb) p
The History is empty.
(gdb) ignore
Argument required (a breakpoint number).
(gdb) quit
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>
```

```

C:\Users\dellR\Desktop\LenguajeC\Ejemplos\p10.c - Notepad++
Archivo Editar Buscar Vista Codificación Lenguaje Configuración Herramientas Macro Ejecutar Plugins Ventana ?
whileauss.c submenu.c ifelsecalculu.c menusalir.c calculadora.c p10.c
1 #include <stdio.h>
2 void main()
3 {
4     int N, CONT, AS;
5     AS=0;
6     CONT=1;
7     printf("TECLEA UN NUMERO: ");
8     scanf("%i", &N);
9     while(CONT<=N)
10    {
11        AS=(AS+CONT);
12        CONT=(CONT+1);
13    }
14    printf("\nEL RESULTADO ES %i\n", AS);
15

```

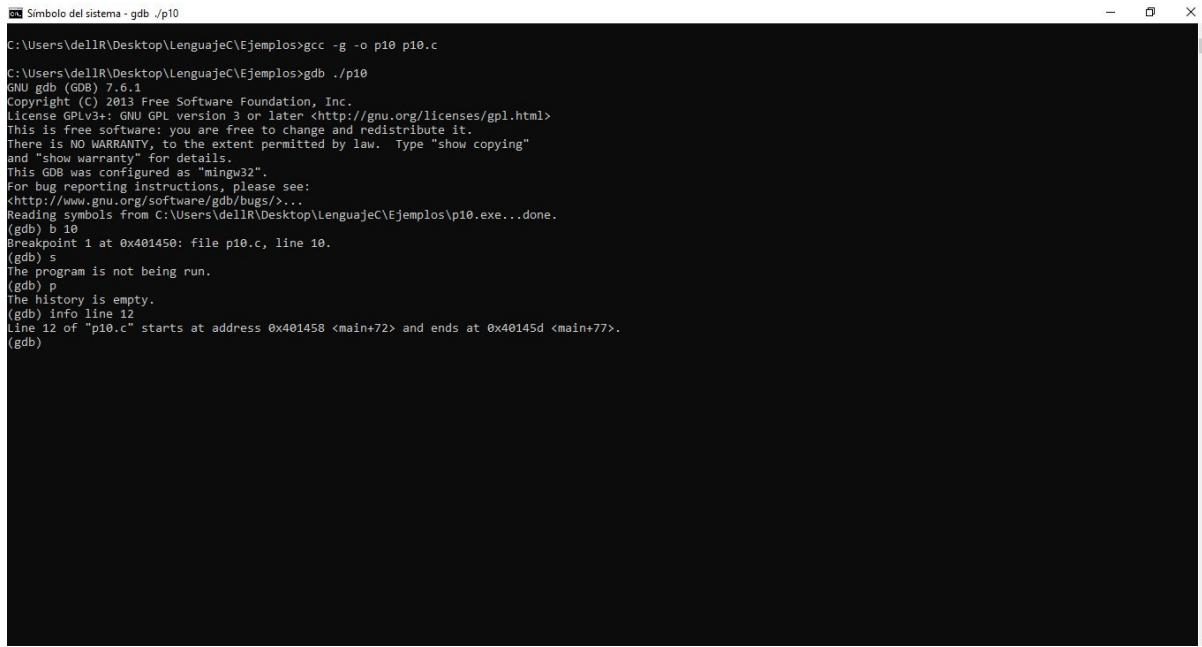
C source file | length : 235 lines : 15 | Ln : 15 Col : 2 Pos : 236 | Windows (CR LF) | UTF-8 | INS

```

C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc p10.c -o p10.exe
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>p10.exe
TECLEA UN NUMERO: 6
EL RESULTADO ES 9
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc p10.c -o p10.exe
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>p10.exe
TECLEA UN NUMERO: 8
EL RESULTADO ES 16
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc p10.c -o p10.exe
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>p10.exe
TECLEA UN NUMERO: 9
EL RESULTADO ES 25
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc p10.c -o p10.exe
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>p10.exe
TECLEA UN NUMERO: 18
EL RESULTADO ES 25
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>

```

puntos de ruptura, ejecución de siguiente línea o instrucción.

A screenshot of a terminal window titled "Símbolo del sistema - gdb ./p10". The window contains the following text:

```
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc -g -o p10 p10.c
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gdb ./p10
GNU gdb (GDB) 7.6.1
Copyright (C) 2012 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:\Users\dellR\Desktop\LenguajeC\Ejemplos\p10.exe...done.
(gdb) b 18
Breakpoint 1 at 0x401450: file p10.c, line 10.
(gdb) s
The program is not being run.
(gdb) p
The history is empty.
(gdb) info line 12
Line 12 of "p10.c" starts at address 0x401458 <main+72> and ends at 0x40145d <main+77>.
(gdb)
```

Al programa se ingresa un número que el el límite, se tienen tres variables que es AS, CONT y N, la variable que se ingresa es N, entonces lo que hace el programa es verificar que CONT es menor o igual a N como cumple el requerimiento se ejecuta la siguiente linea de codigo, que AS se suma a CONT, en este caso cero más uno y se guarda el 1 en el valor de AS después a CONT se le suman dos y después vuelve a analizarlo.

```
○ Símbolo del sistema
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc -g -o p10 p10.c
GNU gdb (GDB) 7.6.1 Free Software Foundation, Inc.
Copyright (C) 2012 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:\Users\dellR\Desktop\LenguajeC\Ejemplos\p10.exe...done.
(gdb) list
1 #include <stdio.h>
2 void main()
3 {
4     int N, CONT, AS;
5     AS=0;
6     CONT=1;
7     printf("TECLEA UN NUMERO: ");
8     scanf("%i",&N);
9     while(CONT<=N)
10    {
(gdb) b
No default breakpoint address now.
(gdb) d
(gdb) clear
No source file specified.
(gdb) info line
Line 10 of "p10.c" is at address 0x401450 <main+64> but contains no code.
(gdb) run
Starting program: C:\Users\dellR\Desktop\LenguajeC\Ejemplos./p10.exe
[New Thread 15676.0x1928]
[New Thread 15676.0x3e68]
TECLEA UN NUMERO: c

EL RESULTADO ES 0
[Inferior 1 (process 15676) exited with code 023]
(gdb) s
The program is not being run.
(gdb) n
The program is not being run.

○ Símbolo del sistema
and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:\Users\dellR\Desktop\LenguajeC\Ejemplos\p10.exe...done.
(gdb) list
1 #include <stdio.h>
2 void main()
3 {
4     int N, CONT, AS;
5     AS=0;
6     CONT=1;
7     printf("TECLEA UN NUMERO: ");
8     scanf("%i",&N);
9     while(CONT<=N)
10    {
(gdb) b
No default breakpoint address now.
(gdb) d
(gdb) clear
No source file specified.
(gdb) info line
Line 10 of "p10.c" is at address 0x401450 <main+64> but contains no code.
(gdb) run
Starting program: C:\Users\dellR\Desktop\LenguajeC\Ejemplos./p10.exe
[New Thread 15676.0x1928]
[New Thread 15676.0x3e68]
TECLEA UN NUMERO: c

EL RESULTADO ES 0
[Inferior 1 (process 15676) exited with code 023]
(gdb) s
The program is not being run.
(gdb) n
The program is not being run.
(gdb) p
The history is empty.
(gdb) ignore
Argument required (a breakpoint number).
(gdb) q

C:\Users\dellR\Desktop\LenguajeC\Ejemplos>
```

```
○ Símbolo del sistema
and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:\Users\dellR\Desktop\LenguajeC\Ejemplos\p10.exe...done.
(gdb) list
1 #include <stdio.h>
2 void main()
3 {
4     int N, CONT, AS;
5     AS=0;
6     CONT=1;
7     printf("TECLEA UN NUMERO: ");
8     scanf("%i",&N);
9     while(CONT<=N)
10    {
(gdb) b
No default breakpoint address now.
(gdb) d
(gdb) clear
No source file specified.
(gdb) info line
Line 10 of "p10.c" is at address 0x401450 <main+64> but contains no code.
(gdb) run
Starting program: C:\Users\dellR\Desktop\LenguajeC\Ejemplos./p10.exe
[New Thread 15676.0x1928]
[New Thread 15676.0x3e68]
TECLEA UN NUMERO: c

EL RESULTADO ES 0
[Inferior 1 (process 15676) exited with code 023]
(gdb) s
The program is not being run.
(gdb) n
The program is not being run.
(gdb) p
The history is empty.
(gdb) ignore
Argument required (a breakpoint number).
(gdb) q

C:\Users\dellR\Desktop\LenguajeC\Ejemplos>
```

```
#include <stdio.h>
void main()
{
    int i, j;
    for(i=1; i<10; i++)
    {
        printf("\nTabla del %i\n", i);
        for(j=1; j==10; j++)
        {
            printf("%i X %i = %i\n", i, j, i*j);
        }
    }
}
```

```
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and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:/Users/dellR/Desktop/LenguajeC/Ejemplos/pp10.exe...done.
(gdb) list
1 #include <stdio.h>
2 void main()
3 {
4     int i, j;
5     for(i=1; i<10; i++)
6     {
7         printf("\nTabla del %i\n", i);
8         for(j=1; j==10; j++)
9         {
10            printf("%i X %i = %i\n", i, j, i*j);
11
12
13
14
15
16
17
18
19
1(gdb) b 5
Breakpoint 1 at 0x40141e: file pp10.c, line 5.
(gdb) b 7
Breakpoint 2 at 0x401428: file pp10.c, line 7.
(gdb) d
Delete all breakpoints? (y or n) clear
Please answer y or n.
Delete all breakpoints? (y or n) info line
Please answer y or n.
Delete all breakpoints? (y or n) run
Please answer y or n.
Delete all breakpoints? (y or n) c
Please answer y or n.
Delete all breakpoints? (y or n) s
Please answer y or n.
Delete all breakpoints? (y or n) n
The history is empty.
(gdb) ignore
Argument required (a breakpoint number).
(gdb) q
C:/Users/dellR/Desktop/LenguajeC/Ejemplos>
```

En el programa falta el return 0,

```
C:\ Símbolo del sistema
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc pp10.c -o pp10.exe
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>pp10.exe
Tabla del 1
Tabla del 2
Tabla del 3
Tabla del 4
Tabla del 5
Tabla del 6
Tabla del 7
Tabla del 8
Tabla del 9
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>
```

C:\Users\dellR\Desktop\LenguajeC\Ejemplos\dep1.c - Notepad++

Archivo Editar Buscar Vista Codificación Lenguaje Configuración Herramientas Macro Ejecutar Plugins Ventana ?

whilengauss.c lagauswhile.c submenu.c ifelsecalcu.c menusalir.c wcalculadora.c p10.c pp10.c dep1.c

```
1 #include <stdio.h>
2 #include <math.h>
3 void main()
4 {
5     int K, X, AP, N;
6     float AS;
7     printf("EL TERMINO GENERICO DE LA SERIE ES: X^K/K! ");
8     printf("\nN=");
9     scanf("%d", &N);
10    printf("X=");
11    scanf("%d", &X);
12    K=1;
13    AP=1;
14    AS=0;
15    while(K<=N)
16    {
17        AS=AS+pow(X,K)/AP;
18        K=K+1;
19        AP=AP*K;
20    }
21    printf("SUM=%f", AS);
22 }
```

Source file length: 343 lines: 22 In: 21 Col: 7 Pos: 300 Windows (CR LF) UTF-8 INS

```

Símbolo del sistema
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gcc -g -o dep1 dep1.c
C:\Users\dellR\Desktop\LenguajeC\Ejemplos>gdb ./dep1
GNU gdb (GDB) 7.6.1 Free Software Foundation, Inc.
Copyright (C) 2013 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:\Users\dellR\Desktop\LenguajeC\Ejemplos\dep1.exe...done.
(gdb) list
1 #include <stdio.h>
2 #include <math.h>
3 void main()
{
5     int K, X, AP, N;
6     float AS;
7     printf("EL TERMINO GENERICO DE LA SERIE ES: X^K/K!");
8     printf("\n");
9     scanf("%d",N);
10    printf("X=%");
(gdb) b
No default breakpoint address now.
(gdb) b 18
Breakpoint 1 at 0x40144a: file dep1.c, line 10.
(gdb) d
Delete all breakpoints? (y or n) clear
Please answer y or n.
Delete all breakpoints? (y or n) info line
Please answer y or n.
Delete all breakpoints? (y or n) run
Please answer y or n.
Delete all breakpoints? (y or n) c
Please answer y or n.
Delete all breakpoints? (y or n) s
Please answer y or n.
Delete all breakpoints? (y or n) n
(gdb) p
The history is empty.
(gdb) ignore

Símbolo del sistema
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "mingw32".
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>...
Reading symbols from C:\Users\dellR\Desktop\LenguajeC\Ejemplos\dep1.exe...done.
(gdb) list
1 #include <stdio.h>
2 #include <math.h>
3 void main()
{
5     int K, X, AP, N;
6     float AS;
7     printf("EL TERMINO GENERICO DE LA SERIE ES: X^K/K!");
8     printf("\n");
9     scanf("%d",N);
10    printf("X=");
(gdb) b
No default breakpoint address now.
(gdb) b 18
Breakpoint 1 at 0x40144a: file dep1.c, line 10.
(gdb) d
Delete all breakpoints? (y or n) clear
Please answer y or n.
Delete all breakpoints? (y or n) info line
Please answer y or n.
Delete all breakpoints? (y or n) run
Please answer y or n.
Delete all breakpoints? (y or n) c
Please answer y or n.
Delete all breakpoints? (y or n) s
Please answer y or n.
Delete all breakpoints? (y or n) n
(gdb) p
The history is empty.
(gdb) ignore
Argument required (a breakpoint number).
(gdb) q

C:\Users\dellR\Desktop\LenguajeC\Ejemplos>_

```

Falta un &

Conclusión:

Con esta práctica pude identificar algunos errores que se presentan en los programas mostrados, con la explicación que vienen no se entiende muy bien el tema, me hubiese gustado que viniera mejor explicado ya que es un tema importante y complejo.

Bibliografía

Guía práctica de estudio 09: Estructuras de repetición [PDF] Universidad Nacional Autónoma de México. Consultado en noviembre de 2020 del sitio:
file:///C:/Users/dellR/Downloads/fp_p9.pdf

