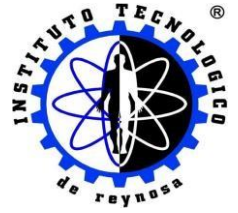




TECNOLÓGICO
NACIONAL DE MÉXICO



PROGRAMACION BASICA

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PRIMER TRABAJO

The screenshot displays the Raptor IDE interface. The top window shows the execution output of a program. The bottom window shows the flowchart of the program, and the MasterConsole window shows the command prompt output.

Execution Output (Top Window):

```
Hola! Mi nombre el Miriam Este programa 1.6
Escribe el primer valor A
3
Escribe el primer valor B
4
Escribe el primer valor C
5
Escribe el primer valor D
6
Los valores en orden inverso son :
El primero es: 6El segundo es 5El tercero es 4El cuarto es3
6--5---4---3
```

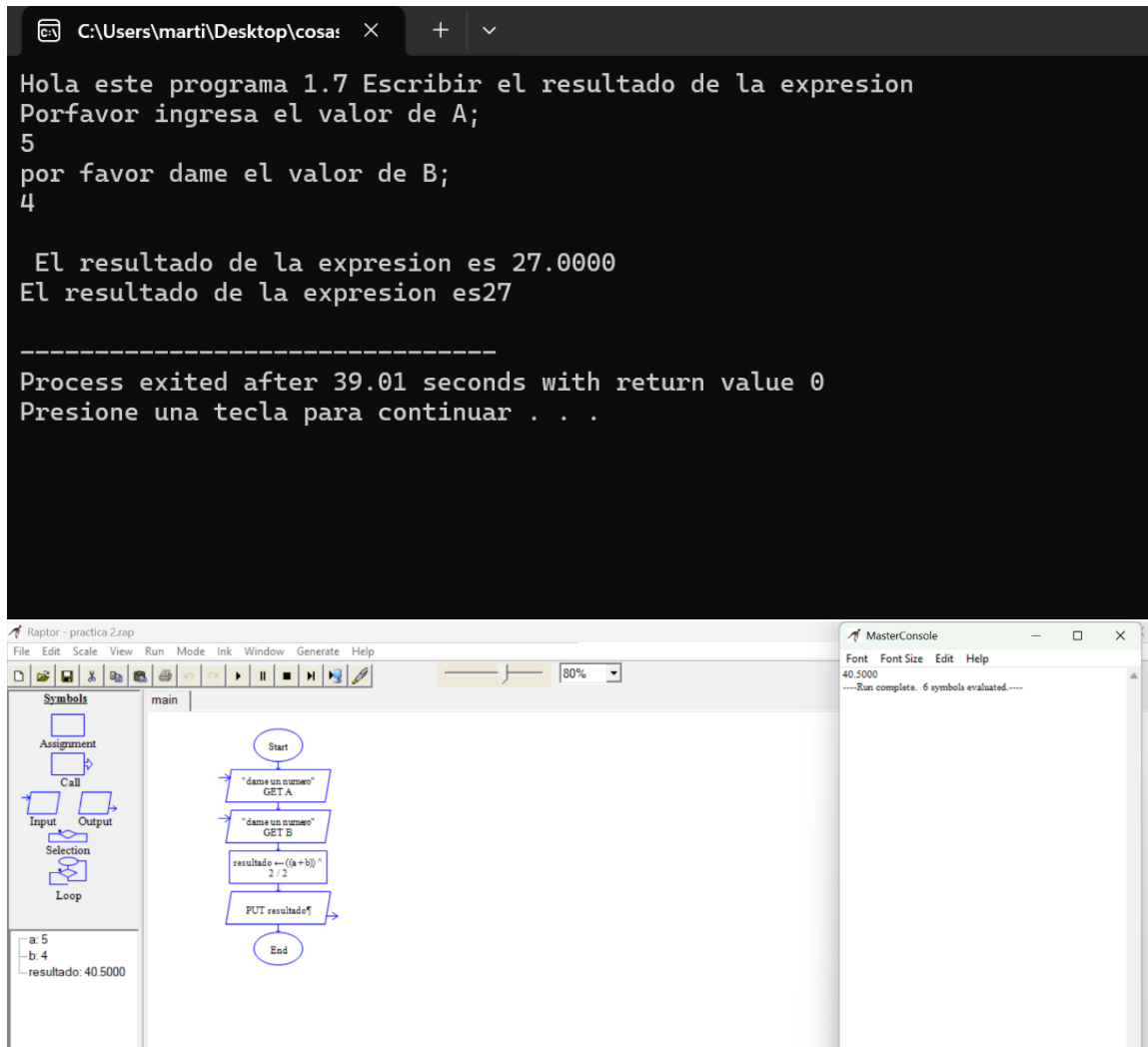
Flowchart (Bottom Window):

```
graph TD
    Start([Start]) --> A["*dame un numero*  
GET A"]
    A --> B["*dame un numero*  
GET B"]
    B --> C["*dame un numero*  
GET C"]
    C --> D["*dame un numero*  
GET D"]
    D --> E["PUT *el resultado es*"]
    E --> F["PUT D + ' ' + C + ' ' + B + ' ' + A"]
    F --> End([End])
```

MasterConsole (Bottom Right Window):

```
Font Font Size Edit Help
el resultado es
3 4 5 6
----Run complete. 8 symbols evaluated----
```

SEGUNDO TRABAJO



The screenshot displays the Raptor IDE interface. The top window shows the execution output of a program. The output text is as follows:

```
C:\Users\marti\Desktop\cosa: × + v
Hola este programa 1.7 Escribir el resultado de la expresion
Porfavor ingresa el valor de A;
5
por favor dame el valor de B;
4

El resultado de la expresion es 27.0000
El resultado de la expresion es27

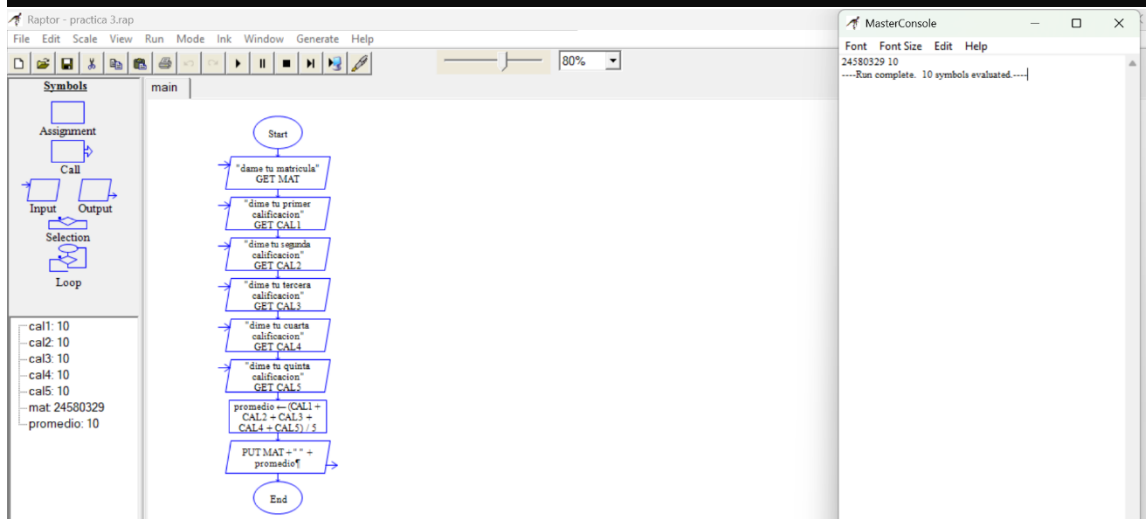
-----
Process exited after 39.01 seconds with return value 0
Presione una tecla para continuar . . .
```

The bottom window shows the Raptor IDE with a flowchart for the program. The flowchart starts with a 'Start' terminal, followed by two input symbols: 'dame un numero GET A' and 'dame un numero GET B'. The process symbol calculates the result using the formula $\text{resultado} = ((a-b)) \cdot \frac{2}{2}$. This is followed by an output symbol 'PUT resultado!' and ends at an 'End' terminal. The left sidebar shows the 'Symbols' palette with options like Assignment, Call, Input, Output, Selection, and Loop. The bottom status bar indicates the variables: a: 5, b: 4, resultado: 40.5000. The MasterConsole window on the right shows the output: 40.5000 and a message: 'Run complete. 6 symbols evaluated.'.

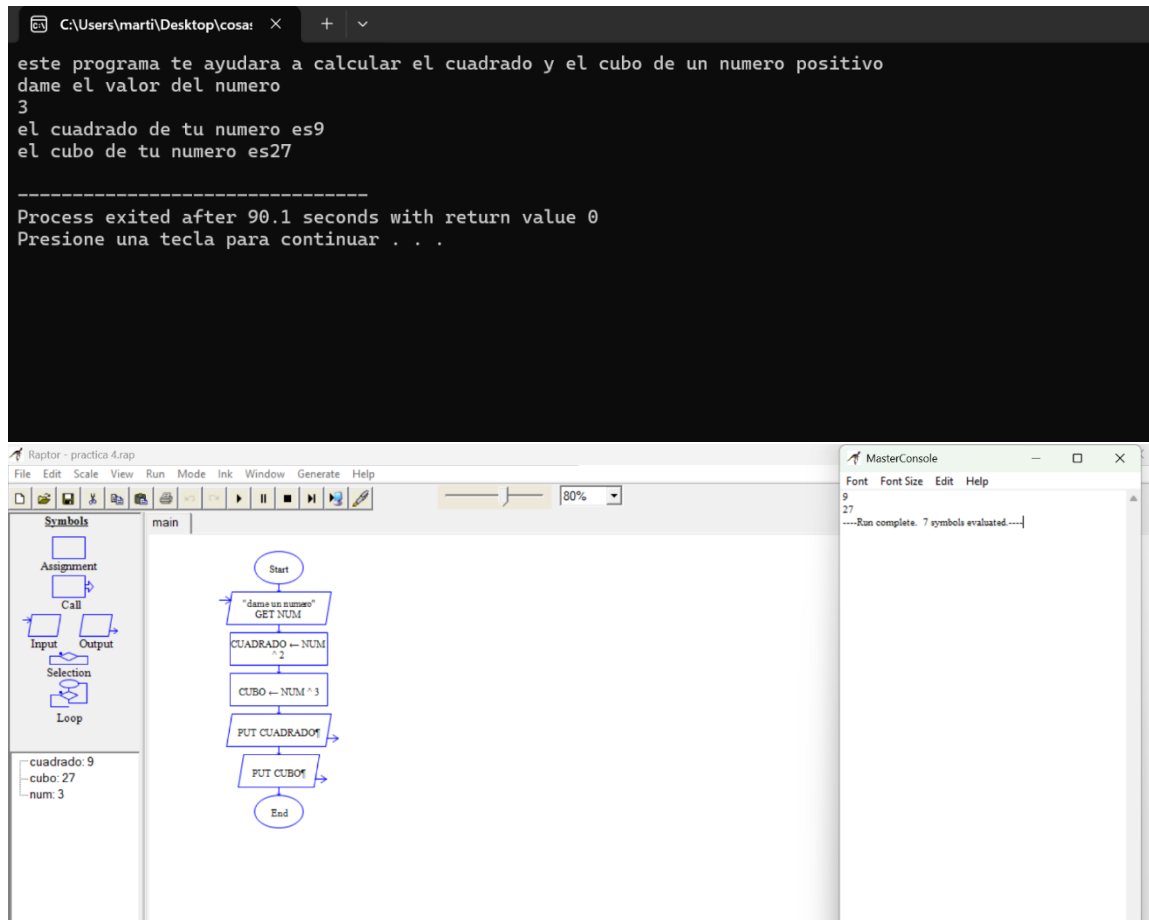
TERCER TRABAJO

```
C:\Users\marti\Desktop\cosa: X + v
hola, te ayudare a sacar tu promedio
dame tu numero de matricula
24580329
dame tu primer calificacion
10
dame tu segunda calificacion
10
dame tu tercera calificacion
10
dame tu cuarta calificacion
10
dame tu quinta calificacion
10
el alumno con matricula24580329tiene un promedio de10

-----
Process exited after 43.16 seconds with return value 0
Presione una tecla para continuar . . .
```



CUARTO TRABAJO



The screenshot displays the Raptor IDE interface. At the top, a console window shows the execution of a program that calculates the square and cube of a number. The program prompts the user for a number, receives '3', and outputs 'el cuadrado de tu numero es9' and 'el cubo de tu numero es27'. Below the console, the Raptor IDE window shows a flowchart for the same program. The flowchart starts with a 'Start' terminal, followed by an input symbol 'dame un numero' and 'GET NUM'. It then calculates the square with 'CUADRADO ← NUM ^ 2' and the cube with 'CUBO ← NUM ^ 3'. These results are displayed using output symbols 'PUT CUADRADO' and 'PUT CUBO'. The flowchart ends with an 'End' terminal. On the left side of the Raptor IDE, a 'Symbols' panel lists the variables: 'cuadrado: 9', 'cubo: 27', and 'num: 3'. On the right side, a 'MasterConsole' window shows the output of the program: '9', '27', and '----Run complete. 7 symbols evaluated.----'.

```
graph TD
    Start([Start]) --> Input[/dame un numero  
GET NUM/]
    Input --> Cuadrado[CUADRADO ← NUM ^ 2]
    Cuadrado --> Cubo[CUBO ← NUM ^ 3]
    Cubo --> PutCuadrado[/PUT CUADRADO/]
    PutCuadrado --> PutCubo[/PUT CUBO/]
    PutCubo --> End([End])
```

Console Output:

```
este programa te ayudara a calcular el cuadrado y el cubo de un numero positivo
dame el valor del numero
3
el cuadrado de tu numero es9
el cubo de tu numero es27

-----
Process exited after 90.1 seconds with return value 0
Presione una tecla para continuar . . .
```

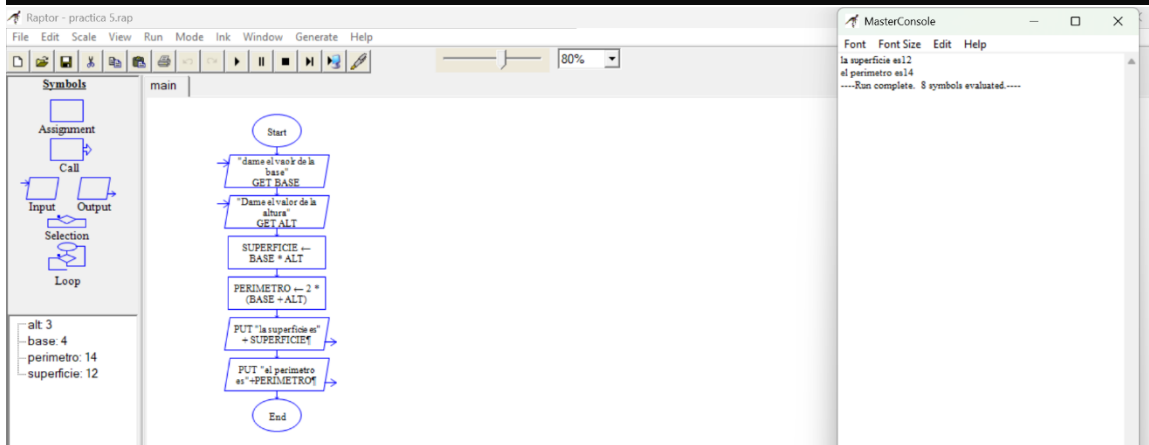
MasterConsole Output:

```
9
27
----Run complete. 7 symbols evaluated.----
```

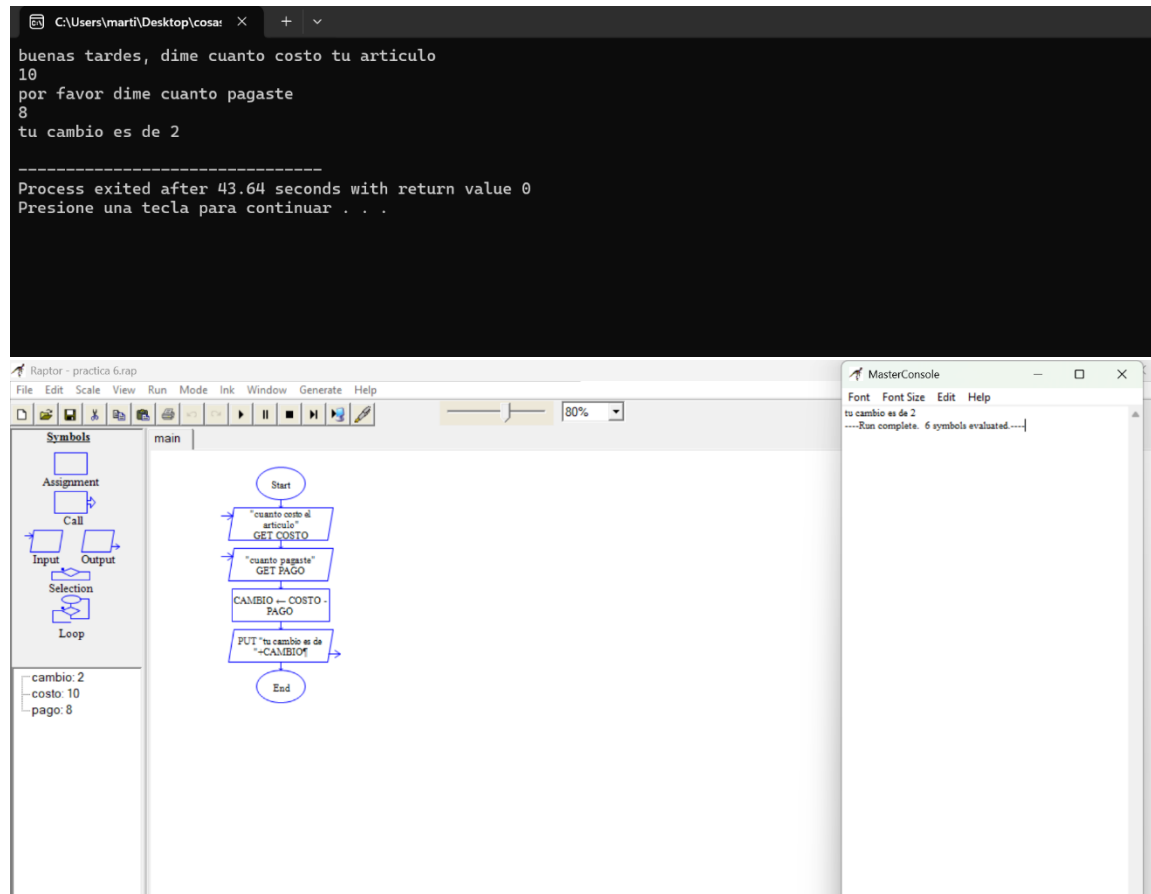
QUINTO TRABAJO

```
C:\Users\marti\Desktop\cosa: X + v
dame el valor de tu BASE
4
dame el valor de tu altura
3
el valor de tu superficie es12
el valor de tu perimetro es14

-----
Process exited after 40.59 seconds with return value 0
Presione una tecla para continuar . . .
```



SEXTO TRABAJO



The screenshot displays the Raptor IDE interface. At the top, a console window shows the execution of a program with the following text:

```
buenas tardes, dime cuanto costo tu articulo
10
por favor dime cuanto pagaste
8
tu cambio es de 2

-----
Process exited after 43.64 seconds with return value 0
Presione una tecla para continuar . . .
```

Below the console, the Raptor IDE window is open, showing a flowchart for a program named "practica 6.rap". The flowchart consists of the following steps:

- Start
- Input: "cuanto costo el articulo" (GET COSTO)
- Input: "cuanto pagaste" (GET PAGO)
- Assignment: $CAMBIO \leftarrow COSTO - PAGO$
- Output: PUT "tu cambio es de " + CAMBIO
- End

On the left side of the Raptor IDE, a variable window shows the values of the variables used in the program:

```
cambio: 2
costo: 10
pago: 8
```

On the right side, a MasterConsole window shows the output of the program:

```
tu cambio es de 2
----Run complete. 6 symbols evaluated----
```

SEPTIMO TRABAJO

The image displays a Raptor IDE window titled "Raptor - practica 7.rap". The main workspace shows a flowchart for a program that asks for dinosaur data and calculates its weight and length in different units. The flowchart starts with a "Start" terminal, followed by an input block "buenas tardes, dame el nombre del dinosaurio" with the symbol "GET NOMBRE". This is followed by another input block "por favor dame el peso en toneladas" with the symbol "GET PESOT". Then, a third input block "por favor dame la longitud en pies" with the symbol "GET LONGITUDP". The flowchart then performs two calculations: $PESOK \leftarrow PESOT * 1000$ and $LONGITUDM \leftarrow LONGITUDP * 0.3047$. These are followed by two output blocks: "PUT 'el peso de tu dinosaurio en kilos es:' PESOK" and "PUT 'La longitud de tu dinosaurio en metros es:' LONGITUDM". The flowchart ends at an "End" terminal.

On the left side of the Raptor window, a "Symbols" panel lists the variables used in the flowchart: longitudm: 12.1880, longitudp: 40, nombre: "T REX", pesok: 5000, and pesot: 5.

On the right side, a "MasterConsole" window shows the output of the program's execution:

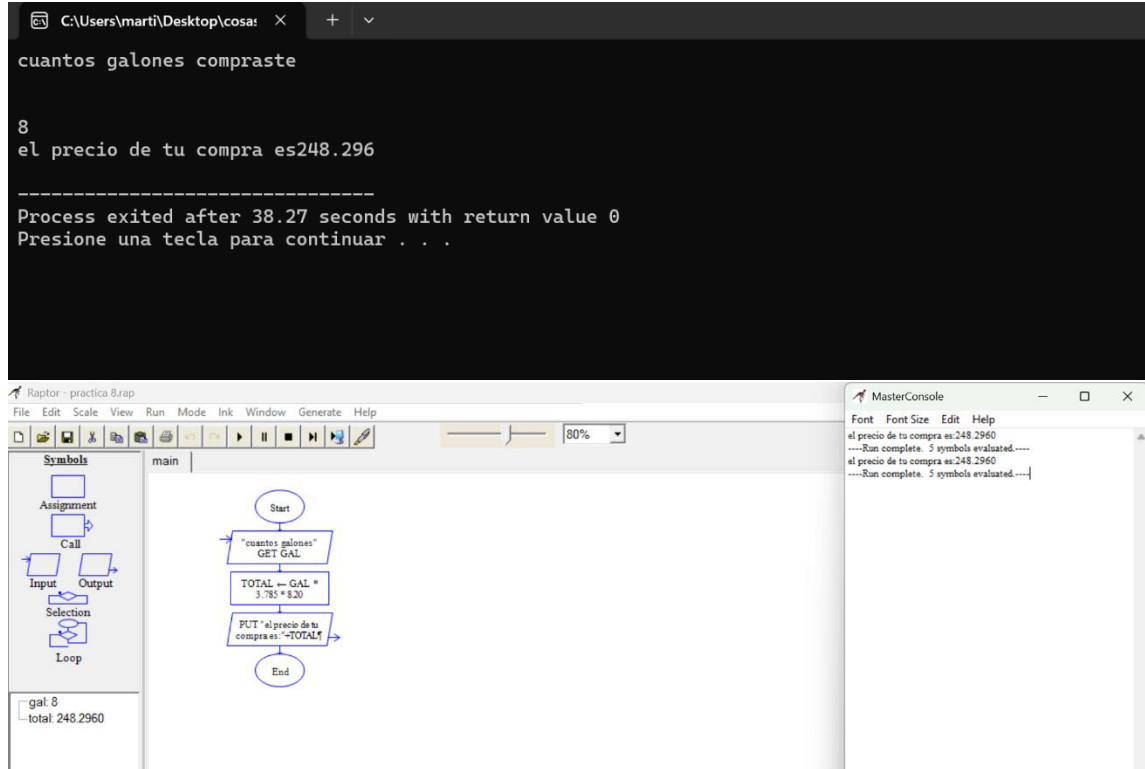
```
Font Font Size Edit Help
el peso de tu dinosaurio en kilos es:5000
La longitud de tu dinosaurio en metros es:12.1880
----Run complete. 9 symbols evaluated.----
```

At the top of the image, a separate window shows the raw text output of the program, which matches the MasterConsole output:

```
C:\Users\marti\Desktop\cosa: x + v
dame el nombre de tu dinosaurio
1
dame el peso de tu dinosaurio en toneladas
5
dame la longitud de tu dinosaurio en pies
40
el peso de tu dinosaurio en kilos es:5000
la longitud de tu dinosaurio en metros es:12.188

-----
Process exited after 41.33 seconds with return value 0
Presione una tecla para continuar . . .
```


OCTAVO TRABAJO



The screenshot displays the Raptor IDE interface. The top window shows the execution output of a program. The output text is as follows:

```
C:\Users\marti\Desktop\cosas x + v
cuantos galones compraste

8
el precio de tu compra es248.296

-----
Process exited after 38.27 seconds with return value 0
Presione una tecla para continuar . . .
```

The bottom window shows the Raptor IDE with a flowchart for the program. The flowchart starts with a 'Start' terminal, followed by an input symbol 'cuantos galones' with the label 'GET GAL'. This is followed by a process symbol 'TOTAL ← GAL * 3.785 * 8.20'. Then, an output symbol 'PUT "el precio de tu compra: "TOTAL' is shown, followed by an 'End' terminal. The left sidebar shows the 'Symbols' palette with various flowchart symbols. The bottom status bar shows the variables 'gal: 8' and 'total: 248.2960'. The right sidebar shows the 'MasterConsole' window with the same output text as the top window.

NOVENO TRABAJO

The screenshot displays the Raptor IDE interface. The top console window shows the execution of a program that prompts for a radius and height, then calculates and outputs the volume and area of a cylinder. The output is as follows:

```
dame el valor de tu radio
6
dame el valor de tu altura
5
el volumen de tu figura es:565.487
el area de tu figura es:188.496

-----
Process exited after 41.79 seconds with return value 0
Presione una tecla para continuar . . .
```

The main workspace shows a flowchart for the program. The flowchart starts with a 'Start' terminal, followed by two input boxes: 'cuanto vale el radio' (GET RADIO) and 'cuanto vale la altura' (GET ALTURA). The next step is an assignment box for the volume: $VOLUMEN \leftarrow 3.141592 * (RADIO * RADIO) * ALTURA$. This is followed by an assignment box for the area: $AREA \leftarrow 2 * 3.141592 * RADIO * ALTURA$. The flowchart then includes two output boxes: 'PUT "el volumen de tu figura es" -> VOLUMEN' and 'PUT "el area de tu figura es" -> AREA'. The process ends at an 'End' terminal.

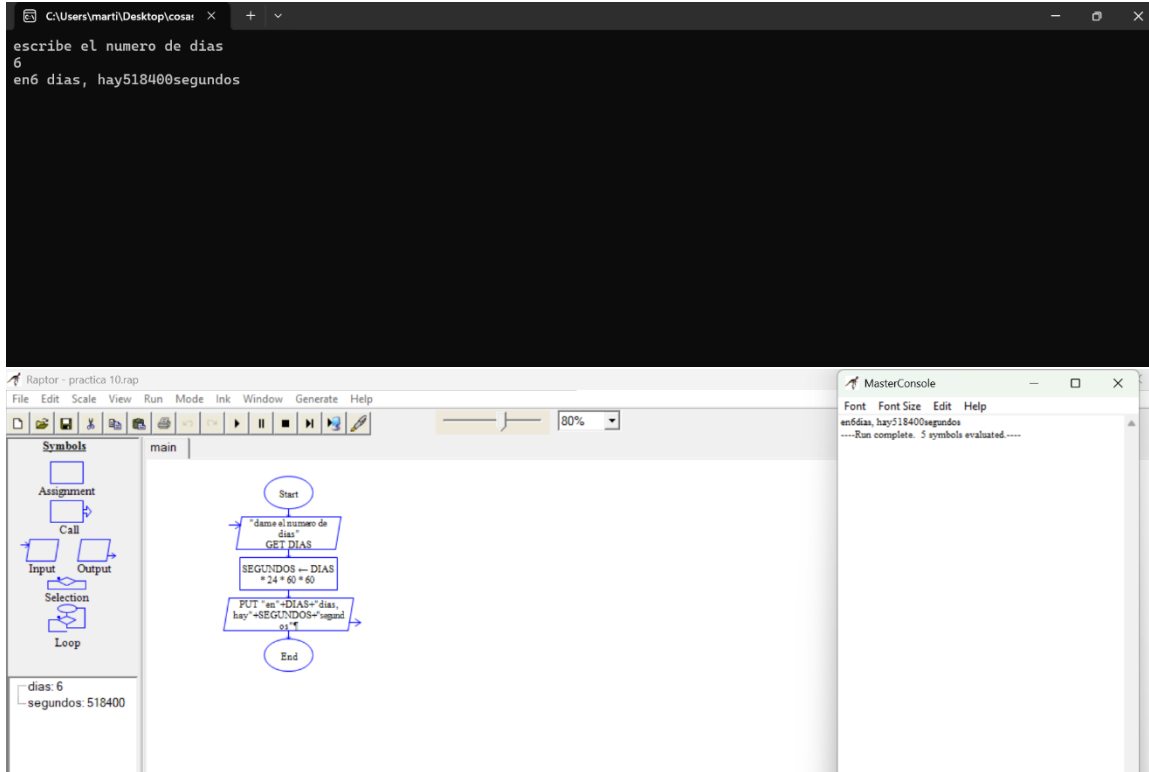
The left sidebar shows the 'Symbols' panel with a list of variables and their values:

- altura: 5
- area: 188.4955
- radio: 6
- volumen: 565.4866

The right sidebar shows the 'MasterConsole' window with the following output:

```
Font Font Size Edit Help
el volumen de tu figura es94.2478
Variable AREA not found!
---Error, run halted---
el volumen de tu figura es565.4866
el area de tu figura es188.4955
----Run complete. 8 symbols evaluated----
```

DECIMO TRABAJO



The screenshot displays the Raptor IDE interface. At the top, a console window shows the program's output: "escribe el numero de dias", "6", and "en6 dias, hay518400segundos". Below this, the main workspace shows a flowchart for calculating seconds from days. The flowchart starts with a "Start" terminal, followed by an input symbol "dame el numero de dias" and a process symbol "GET DIAS". It then calculates "SEGUNDOS ← DIAS * 24 * 60 * 60" and outputs the result with "PUT 'en '+DIAS+' dias, hay'+SEGUNDOS+'segundos'". The flowchart ends at an "End" terminal. On the left, a "Symbols" panel lists the variables: "dias: 6" and "segundos: 518400". On the right, a "MasterConsole" window shows the execution log: "en6dias, hay518400segundos" and "----Run complete. 5 symbols evaluated.----".

```
graph TD; Start([Start]) --> Input[/dame el numero de dias/]; Input --> Process[GET DIAS]; Process --> Calculation[SEGUNDOS ← DIAS * 24 * 60 * 60]; Calculation --> Output[/PUT 'en '+DIAS+' dias, hay'+SEGUNDOS+'segundos'/]; Output --> End([End]);
```

MasterConsole

Font Font Size Edit Help

en6dias, hay518400segundos

----Run complete. 5 symbols evaluated.----

ONCEAVO TRABAJO

C:\Users\vmarti\Desktop\cosas

```
dame el valor del primer lado
6
dame el valor del segundo lado
5
dame el valor del tercer lado
4
el valor de S es:7
el valor de tu area es:21

-----
Process exited after 42.26 seconds with return value 0
Presione una tecla para continuar . . .
```

Raptor - practica 11.rap

File Edit Scale View Run Mode Ink Window Generate Help

80%

Symbols

- Assignment
- Call
- Input
- Output
- Selection
- Loop

area: 49.2188
lad1: 6
lad2: 5
lad3: 4
s: 7.5000

main

```
graph TD
    Start([Start]) --> LAD1[/dame el valor del primer lado  
GET LAD1/]
    LAD1 --> LAD2[/dame el valor del segundo lado  
GET LAD2/]
    LAD2 --> LAD3[/dame el valor del tercer lado  
GET LAD3/]
    LAD3 --> S["S ← (LAD1 + LAD2 + LAD3) / 2"]
    S --> AREA["AREA ← ((S * (S - LAD1) * (S - LAD2) * (S - LAD3))) * 0.5"]
    AREA --> PUT[/PUT "el valor de tu area es" → AREA/]
    PUT --> End([End])
```

MasterConsole

Font Font Size Edit Help

el valor de tu area es49.2188
----Run complete. 8 symbols evaluated.----

DOCEAVO TRABAJO

C:\Users\marth\Desktop\cosas

```

escribe la cordenada x del primer punto
10
escribe la cordenada de y del primer punto
10
escribe la cordenada de x del segundo punto
5
escribe la cordenada de y del segundo punto
5
la distancia entre el primer y segundo punto es:10

-----
Process exited after 9.337 seconds with return value 0
Presione una tecla para continuar . . .

```

Raptor - practica 12.rap

File Edit Scale View Run Mode Ink Window Generate Help

80%

Symbols

Assignment
Call
Input Output
Selection
Loop

distancia: 7.0711

x1: 10

x2: 5

y1: 10

y2: 5

main

```

graph TD
    Start([Start]) --> X1["introduzca el valor de X1  
GET X1"]
    X1 --> Y1["introduzca el valor de Y1  
GET Y1"]
    Y1 --> X2["introduzca el valor de X2  
GET X2"]
    X2 --> Y2["introduzca el valor de Y2  
GET Y2"]
    Y2 --> Distancia["DISTANCIA ← ((X1 - X2) ** 2 + (Y1 - Y2) ** 2) ** 0.5"]
    Distancia --> Put["PUT 'el valor de la distancia es:' ← DISTANCIA"]
    Put --> End([End])

```

MasterConsole

Font Font Size Edit Help

```

el valor de la distancia es:0
-----Run complete. 8 symbols evaluated-----
el valor de la distancia es:7.0711
-----Run complete. 8 symbols evaluated-----

```