

Practica 2: Fundamentos y Sintaxis del Lenguaje

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1 Objetivo

Crear programas que implementen variables y constantes de diferentes tipos de datos, expresiones y estructuras de control de flujo.

2 Actividades

- Crear variables y constantes de diferentes tipos de datos.
- Crear diversas expresiones (operadores, declaraciones, etc)
- Implementar estructuras de control de flujo (if/else, switch, for, while, etc.)

3 Desarrollo

3.1 Ejercicio 1

Escribe un programa en Java que a recibir como dato el salario de un profesor de una universidad, calcule el incremento del salario de acuerdo con el siguiente criterio y escriba el nuevo salario del profesor.

Salario < \$18,000 \Rightarrow Incremento 12%
\$18,000 \leq Salario \leq \$30,000 \Rightarrow Incremento 8%
\$30,000 < Salario \leq \$50,000 \Rightarrow Incremento 7%
\$50,000 < Salario \Rightarrow Incremento 6%

3.1.1 Codigo

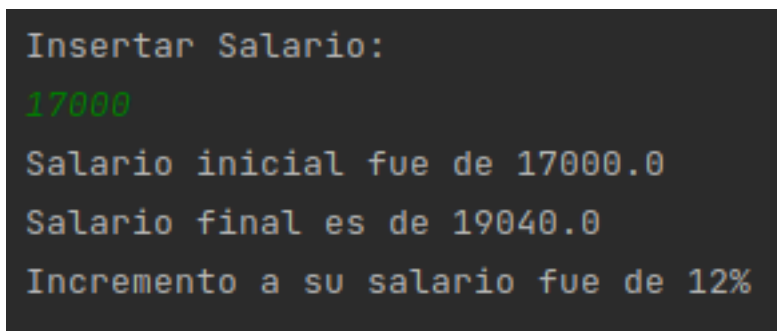
```
1 import java.util.Scanner;
2
3 public class Salario
4 {
5     public static void main(String[] args)
6     {
7         Scanner scan = new Scanner(System.in);
8         System.out.println("Insertar Salario: ");
9         float salario = scan.nextFloat();
10        String porcen;
11
12        System.out.println("Salario inicial fue de " +
13            salario);
14
15        if(salario < 18000)
16        {
17            salario = (float) (salario + (salario *
18                0.12));
19            porcen = "12%";
20        }
21        else if(18000 <= salario && salario <= 30000)
22        {
23            salario = (float) (salario + (salario *
24                0.08));
25            porcen = "8%";
26        }
27        else if(30000 < salario && salario <= 50000)
28        {
29            salario = (float) (salario + (salario *
30                0.07));
31        }
32    }
33 }
```

```

27         porcen = "7%";
28     }
29     else
30     {
31         salario = (float) (salario + (salario *
32             0.06));
33         porcen = "6%";
34     }
35     System.out.println("Salario final es de " +
36         salario);
37     System.out.println("Incremento a su salario
38         fue de " + porcen);
39 }
40 }

```

3.1.2 Evidencias

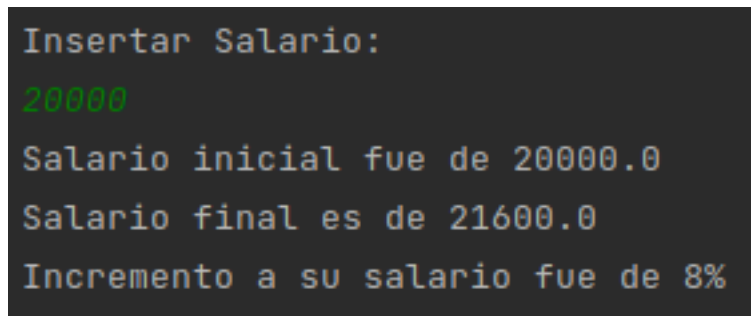


```

Insertar Salario:
17000
Salario inicial fue de 17000.0
Salario final es de 19040.0
Incremento a su salario fue de 12%

```

Figure 1: Output Clase Salario Ejemplo 1



```

Insertar Salario:
20000
Salario inicial fue de 20000.0
Salario final es de 21600.0
Incremento a su salario fue de 8%

```

Figure 2: Output Clase Salario Ejemplo 2

```
Insertar Salario:  
40000  
Salario inicial fue de 40000.0  
Salario final es de 42800.0  
Incremento a su salario fue de 7%
```

Figure 3: Output Clase Salario Ejemplo 3

```
Insertar Salario:  
60000  
Salario inicial fue de 60000.0  
Salario final es de 63600.0  
Incremento a su salario fue de 6%
```

Figure 4: Output Clase Salario Ejemplo 4

3.2 Ejercicio 2

Escribe un programa en Java que al recibir como datos tres números reales, identifique cual es el mayor. Considera que los números pueden ser iguales. Datos: N1, N2 y N3 (variables de tipo real que representan los números que se ingresan)

3.2.1 Código

```
1  import java.util.Scanner;
2
3  public class Mayor
4  {
5      public static void main(String[] args)
6      {
7          Scanner scan = new Scanner(System.in);
8          System.out.println("Ingresa numero 1: ");
9          float N1 = scan.nextFloat();
10         System.out.println("Ingresa numero 2: ");
11         float N2 = scan.nextFloat();
12         System.out.println("Ingresa numero 3: ");
13         float N3 = scan.nextFloat();
14
15         float biggest = N1 > N2 ? N1 : N2;
16         biggest = biggest > N3 ? biggest : N3;
17
18         System.out.println("Numero mayor es: " +
19                             biggest);
20     }
```

3.2.2 Evidencias

```
Ingresa numero 1:  
8  
Ingresa numero 2:  
9  
Ingresa numero 3:  
10  
Numero mayor es: 10.0
```

Figure 5: Output Clase Mayor Ejemplo 1

```
Ingresa numero 1:  
89.9  
Ingresa numero 2:  
50  
Ingresa numero 3:  
1  
Numero mayor es: 89.9
```

Figure 6: Output Clase Mayor Ejemplo 2

3.3 Ejercicio 3

Escribe un programa en Java que permita convertir de pulgadas a milímetros, de yardas a metros y de millas a kilómetros.

Consideraciones:

- 1 pulgada equivale a 25.40 metros
- 1 yarda equivale a 0.9144 metros
- 1 milla equivale a 1.6093 kilómetros

3.3.1 Código

```
1  import java.util.Scanner;
2
3  public class Converter
4  {
5      public static void main(String[] args)
6      {
7          Scanner scan = new Scanner(System.in);
8
9          System.out.println("Escoja la opcion deseada:"
10             );
11          System.out.println("1. Pulgadas a Milímetros")
12             ;
13          System.out.println("2. Yardas a Metros");
14          System.out.println("3. Millas a Kilómetros");
15
16          int option = scan.nextInt();
17          float data;
18          float temp;
19
20          switch (option) {
21              case 1:
22                  System.out.println("Indique pulgadas a
23                      convertir: ");
24                  data = scan.nextFloat();
25                  temp = data;
26                  data = (float) (data * 25.40);
27                  System.out.println(temp + " pulgadas,
28                      es igual a " + data + " milímetros.
29                      ");
30                  break;
31
32              case 2:
```

```

28         System.out.println("Indique yardas a
           convertir: ");
29         data = scan.nextFloat();
30         temp = data;
31         data = (float) (data * 0.9144);
32         System.out.println(temp + " yardas, es
           igual a " + data + " metros.");
33         break;
34
35     case 3:
36         System.out.println("Indique millas a
           convertir: ");
37         data = scan.nextFloat();
38         temp = data;
39         data = (float) (data * 1.6093);
40         System.out.println(temp + " millas, es
           igual a " + data + " kilometros.");
           ;
41         break;
42     }
43 }
44 }

```


3.3.2 Evidencias

```
Escoja la opcion deseada:  
1. Pulgadas a Milimetros  
2. Yardas a Metros  
3. Millas a Kilometros  
1  
Indique pulgadas a convertir:  
20  
20.0 pulgadas, es igual a 508.0 milimetros.
```

Figure 7: Output Clase Converter Ejemplo 1

```
Escoja la opcion deseada:  
1. Pulgadas a Milimetros  
2. Yardas a Metros  
3. Millas a Kilometros  
2  
Indique yardas a convertir:  
100  
100.0 yardas, es igual a 91.44 metros.
```

Figure 8: Output Clase Converter Ejemplo 2

```
Escoja la opcion deseada:  
1. Pulgadas a Milimetros  
2. Yardas a Metros  
3. Millas a Kilometros  
3  
Indique millas a convertir:  
15  
15.0 millas, es igual a 24.1395 kilometros.
```

Figure 9: Output Clase Converter Ejemplo 3

3.4 Ejercicio 4

Escribe un programa en Java al recibir como dato un numero entero N, calcule el resultado de la siguiente serie.

$$1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{N}$$

3.4.1 Codigo

```
1  import java.util.Scanner;
2
3  public class Serie
4  {
5      public static void main(String[] args)
6      {
7          Scanner scan = new Scanner(System.in);
8
9          System.out.println("Escoja el denominador
10             limite: ");
11
12          int N = scan.nextInt();
13          float ans = 0;
14
15          for (int i = 1; i <= N; i++)
16          {
17              ans += 1/(float)i;
18          }
19
20          System.out.println("El resultado es " + ans);
21      }
```

3.4.2 Evidencias

```
/usr/lib/jvm/java-11-amazon-corretto/bin/java  
Ingrese ultimo denominador a sumar:  
20  
El resultado es 3.5977397
```

Figure 10: Output Clase Serie Ejemplo 1

```
/usr/lib/jvm/java-11-amazon-corretto/bin/java -  
Ingrese ultimo denominador a sumar:  
1000  
El resultado es 7.4854784
```

Figure 11: Output Clase Serie Ejemplo 2

3.5 Ejercicio 5

Escriba una aplicacion que utilice instrucciones de repeticion y switch para imprimir la cancion "Los doce dias de Navidad" (The Twelve Days of Christmas). Una instruccion switch debe utilizarse para imprimir el dia (es decir, first, second, etc).

Una instruccion switch separada debe utilizarse para imprimir el resto de cada verso. Visite el sitio (https://es.wikipedia.org/wiki/The_Twelve_Days_of_Christmas).

3.5.1Codigo

```
1 public class Christmas
2 {
3     public static void main(String[] args)
4     {
5         for(int i = 1; i <= 12; i++)
6         {
7             System.out.print("On the ");
8
9             switch(i)
10            {
11                case 1:
12                    System.out.print(" first ");
13                    break;
14                case 2:
15                    System.out.print(" second ");
16                    break;
17                case 3:
18                    System.out.print(" third ");
19                    break;
20                case 4:
21                    System.out.print(" fourth ");
22                    break;
23                case 5:
24                    System.out.print(" fifth ");
25                    break;
26                case 6:
27                    System.out.print(" sixth ");
28                    break;
29                case 7:
30                    System.out.print(" seventh ");
31                    break;
32                case 8:
33                    System.out.print(" eighth");
34                    break;
```

```

35         case 9:
36             System.out.print(" ninth ");
37             break;
38         case 10:
39             System.out.print(" tenth ");
40             break;
41         case 11:
42             System.out.print(" eleventh ");
43             break;
44         case 12:
45             System.out.print(" twelfth");
46             break;
47     }
48
49     System.out.println(" day of Christmas, my
50         true love sent to me");
51
52     for(int k = i; k >= 0; k--)
53     {
54         switch(k)
55         {
56             case 1:
57                 if(i > 1)
58                 {
59                     System.out.print("and ");
60                     System.out.println("a
61                         Partridge in a Pear Tree.")
62                     ;
63                     break;
64                 case 2:
65                     System.out.println("Two turtle
66                         doves,");
67                     break;
68                 case 3:
69                     System.out.println("Three
70                         french hens,");
71                     break;
72                 case 4:
73                     System.out.println("Four
74                         calling birds,");
75                     break;
76                 case 5:
77                     System.out.println("Five
78                         golden rings,");
79                     break;
80                 case 6:
81                     System.out.println("Six
82                         swans,");
83                     break;
84                 case 7:
85                     System.out.println("Seven
86                         lambs,");
87                     break;
88                 case 8:
89                     System.out.println("Eight
90                         dancing queens,");
91                     break;
92                 case 9:
93                     System.out.print(" ninth ");
94                     break;
95                 case 10:
96                     System.out.print(" tenth ");
97                     break;
98                 case 11:
99                     System.out.print(" eleventh ");
100                    break;
101                 case 12:
102                    System.out.print(" twelfth");
103                    break;
104            }
105        }
106    }
107
108    System.out.println(" day of Christmas, my
109        true love sent to me");
110
111    for(int k = i; k >= 0; k--)
112    {
113        switch(k)
114        {
115            case 1:
116                if(i > 1)
117                {
118                    System.out.print("and ");
119                    System.out.println("a
120                        Partridge in a Pear Tree.")
121                    ;
122                    break;
123                case 2:
124                    System.out.println("Two turtle
125                        doves,");
126                    break;
127                case 3:
128                    System.out.println("Three
129                        french hens,");
130                    break;
131                case 4:
132                    System.out.println("Four
133                        calling birds,");
134                    break;
135                case 5:
136                    System.out.println("Five
137                        golden rings,");
138                    break;
139                case 6:
140                    System.out.println("Six
141                        swans,");
142                    break;
143                case 7:
144                    System.out.println("Seven
145                        lambs,");
146                    break;
147                case 8:
148                    System.out.println("Eight
149                        dancing queens,");
150                    break;
151                case 9:
152                    System.out.print(" ninth ");
153                    break;
154                case 10:
155                    System.out.print(" tenth ");
156                    break;
157                case 11:
158                    System.out.print(" eleventh ");
159                    break;
160                case 12:
161                    System.out.print(" twelfth");
162                    break;
163            }
164        }
165    }
166
167    System.out.println(" day of Christmas, my
168        true love sent to me");
169
170    for(int k = i; k >= 0; k--)
171    {
172        switch(k)
173        {
174            case 1:
175                if(i > 1)
176                {
177                    System.out.print("and ");
178                    System.out.println("a
179                        Partridge in a Pear Tree.")
180                    ;
181                    break;
182                case 2:
183                    System.out.println("Two turtle
184                        doves,");
185                    break;
186                case 3:
187                    System.out.println("Three
188                        french hens,");
189                    break;
190                case 4:
191                    System.out.println("Four
192                        calling birds,");
193                    break;
194                case 5:
195                    System.out.println("Five
196                        golden rings,");
197                    break;
198                case 6:
199                    System.out.println("Six
200                        swans,");
201                    break;
202                case 7:
203                    System.out.println("Seven
204                        lambs,");
205                    break;
206                case 8:
207                    System.out.println("Eight
208                        dancing queens,");
209                    break;
210                case 9:
211                    System.out.print(" ninth ");
212                    break;
213                case 10:
214                    System.out.print(" tenth ");
215                    break;
216                case 11:
217                    System.out.print(" eleventh ");
218                    break;
219                case 12:
220                    System.out.print(" twelfth");
221                    break;
222            }
223        }
224    }
225
226    System.out.println(" day of Christmas, my
227        true love sent to me");
228
229    for(int k = i; k >= 0; k--)
230    {
231        switch(k)
232        {
233            case 1:
234                if(i > 1)
235                {
236                    System.out.print("and ");
237                    System.out.println("a
238                        Partridge in a Pear Tree.")
239                    ;
240                    break;
241                case 2:
242                    System.out.println("Two turtle
243                        doves,");
244                    break;
245                case 3:
246                    System.out.println("Three
247                        french hens,");
248                    break;
249                case 4:
250                    System.out.println("Four
251                        calling birds,");
252                    break;
253                case 5:
254                    System.out.println("Five
255                        golden rings,");
256                    break;
257                case 6:
258                    System.out.println("Six
259                        swans,");
260                    break;
261                case 7:
262                    System.out.println("Seven
263                        lambs,");
264                    break;
265                case 8:
266                    System.out.println("Eight
267                        dancing queens,");
268                    break;
269                case 9:
270                    System.out.print(" ninth ");
271                    break;
272                case 10:
273                    System.out.print(" tenth ");
274                    break;
275                case 11:
276                    System.out.print(" eleventh ");
277                    break;
278                case 12:
279                    System.out.print(" twelfth");
280                    break;
281            }
282        }
283    }
284
285    System.out.println(" day of Christmas, my
286        true love sent to me");
287
288    for(int k = i; k >= 0; k--)
289    {
290        switch(k)
291        {
292            case 1:
293                if(i > 1)
294                {
295                    System.out.print("and ");
296                    System.out.println("a
297                        Partridge in a Pear Tree.")
298                    ;
299                    break;
300                case 2:
301                    System.out.println("Two turtle
302                        doves,");
303                    break;
304                case 3:
305                    System.out.println("Three
306                        french hens,");
307                    break;
308                case 4:
309                    System.out.println("Four
310                        calling birds,");
311                    break;
312                case 5:
313                    System.out.println("Five
314                        golden rings,");
315                    break;
316                case 6:
317                    System.out.println("Six
318                        swans,");
319                    break;
320                case 7:
321                    System.out.println("Seven
322                        lambs,");
323                    break;
324                case 8:
325                    System.out.println("Eight
326                        dancing queens,");
327                    break;
328                case 9:
329                    System.out.print(" ninth ");
330                    break;
331                case 10:
332                    System.out.print(" tenth ");
333                    break;
334                case 11:
335                    System.out.print(" eleventh ");
336                    break;
337                case 12:
338                    System.out.print(" twelfth");
339                    break;
340            }
341        }
342    }
343
344    System.out.println(" day of Christmas, my
345        true love sent to me");
346
347    for(int k = i; k >= 0; k--)
348    {
349        switch(k)
350        {
351            case 1:
352                if(i > 1)
353                {
354                    System.out.print("and ");
355                    System.out.println("a
356                        Partridge in a Pear Tree.")
357                    ;
358                    break;
359                case 2:
360                    System.out.println("Two turtle
361                        doves,");
362                    break;
363                case 3:
364                    System.out.println("Three
365                        french hens,");
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368                    System.out.println("Four
369                        calling birds,");
370                    break;
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372                    System.out.println("Five
373                        golden rings,");
374                    break;
375                case 6:
376                    System.out.println("Six
377                        swans,");
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379                case 7:
380                    System.out.println("Seven
381                        lambs,");
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384                    System.out.println("Eight
385                        dancing queens,");
386                    break;
387                case 9:
388                    System.out.print(" ninth ");
389                    break;
390                case 10:
391                    System.out.print(" tenth ");
392                    break;
393                case 11:
394                    System.out.print(" eleventh ");
395                    break;
396                case 12:
397                    System.out.print(" twelfth");
398                    break;
399            }
400        }
401    }
402
403    System.out.println(" day of Christmas, my
404        true love sent to me");
405
406    for(int k = i; k >= 0; k--)
407    {
408        switch(k)
409        {
410            case 1:
411                if(i > 1)
412                {
413                    System.out.print("and ");
414                    System.out.println("a
415                        Partridge in a Pear Tree.")
416                    ;
417                    break;
418                case 2:
419                    System.out.println("Two turtle
420                        doves,");
421                    break;
422                case 3:
423                    System.out.println("Three
424                        french hens,");
425                    break;
426                case 4:
427                    System.out.println("Four
428                        calling birds,");
429                    break;
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431                    System.out.println("Five
432                        golden rings,");
433                    break;
434                case 6:
435                    System.out.println("Six
436                        swans,");
437                    break;
438                case 7:
439                    System.out.println("Seven
440                        lambs,");
441                    break;
442                case 8:
443                    System.out.println("Eight
444                        dancing queens,");
445                    break;
446                case 9:
447                    System.out.print(" ninth ");
448                    break;
449                case 10:
450                    System.out.print(" tenth ");
451                    break;
452                case 11:
453                    System.out.print(" eleventh ");
454                    break;
455                case 12:
456                    System.out.print(" twelfth");
457                    break;
458            }
459        }
460    }
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462    System.out.println(" day of Christmas, my
463        true love sent to me");
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465    for(int k = i; k >= 0; k--)
466    {
467        switch(k)
468        {
469            case 1:
470                if(i > 1)
471                {
472                    System.out.print("and ");
473                    System.out.println("a
474                        Partridge in a Pear Tree.")
475                    ;
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477                case 2:
478                    System.out.println("Two turtle
479                        doves,");
480                    break;
481                case 3:
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483                        french hens,");
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486                    System.out.println("Four
487                        calling birds,");
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491                        golden rings,");
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494                    System.out.println("Six
495                        swans,");
496                    break;
497                case 7:
498                    System.out.println("Seven
499                        lambs,");
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501                case 8:
502                    System.out.println("Eight
503                        dancing queens,");
504                    break;
505                case 9:
506                    System.out.print(" ninth ");
507                    break;
508                case 10:
509                    System.out.print(" tenth ");
510                    break;
511                case 11:
512                    System.out.print(" eleventh ");
513                    break;
514                case 12:
515                    System.out.print(" twelfth");
516                    break;
517            }
518        }
519    }
520
521    System.out.println(" day of Christmas, my
522        true love sent to me");
523
524    for(int k = i; k >= 0; k--)
525    {
526        switch(k)
527        {
528            case 1:
529                if(i > 1)
530                {
531                    System.out.print("and ");
532                    System.out.println("a
533                        Partridge in a Pear Tree.")
534                    ;
535                    break;
536                case 2:
537                    System.out.println("Two turtle
538                        doves,");
539                    break;
540                case 3:
541                    System.out.println("Three
542                        french hens,");
543                    break;
544                case 4:
545                    System.out.println("Four
546                        calling birds,");
547                    break;
548                case 5:
549                    System.out.println("Five
550                        golden rings,");
551                    break;
552                case 6:
553                    System.out.println("Six
554                        swans,");
555                    break;
556                case 7:
557                    System.out.println("Seven
558                        lambs,");
559                    break;
560                case 8:
561                    System.out.println("Eight
562                        dancing queens,");
563                    break;
564                case 9:
565                    System.out.print(" ninth ");
566                    break;
567                case 10:
568                    System.out.print(" tenth ");
569                    break;
570                case 11:
571                    System.out.print(" eleventh ");
572                    break;
573                case 12:
574                    System.out.print(" twelfth");
575                    break;
576            }
577        }
578    }
579
580    System.out.println(" day of Christmas, my
581        true love sent to me");
582
583    for(int k = i; k >= 0; k--)
584    {
585        switch(k)
586        {
587            case 1:
588                if(i > 1)
589                {
590                    System.out.print("and ");
591                    System.out.println("a
592                        Partridge in a Pear Tree.")
593                    ;
594                    break;
595                case 2:
596                    System.out.println("Two turtle
597                        doves,");
598                    break;
599                case 3:
600                    System.out.println("Three
601                        french hens,");
602                    break;
603                case 4:
604                    System.out.println("Four
605                        calling birds,");
606                    break;
607                case 5:
608                    System.out.println("Five
609                        golden rings,");
610                    break;
611                case 6:
612                    System.out.println("Six
613                        swans,");
614                    break;
615                case 7:
616                    System.out.println("Seven
617                        lambs,");
618                    break;
619                case 8:
620                    System.out.println("Eight
621                        dancing queens,");
622                    break;
623                case 9:
624                    System.out.print(" ninth ");
625                    break;
626                case 10:
627                    System.out.print(" tenth ");
628                    break;
629                case 11:
630                    System.out.print(" eleventh ");
631                    break;
632                case 12:
633                    System.out.print(" twelfth");
634                    break;
635            }
636        }
637    }
638
639    System.out.println(" day of Christmas, my
640        true love sent to me");
641
642    for(int k = i; k >= 0; k--)
643    {
644        switch(k)
645        {
646            case 1:
647                if(i > 1)
648                {
649                    System.out.print("and ");
650                    System.out.println("a
651                        Partridge in a Pear Tree.")
652                    ;
653                    break;
654                case 2:
655                    System.out.println("Two turtle
656                        doves,");
657                    break;
658                case 3:
659                    System.out.println("Three
660                        french hens,");
661                    break;
662                case 4:
663                    System.out.println("Four
664                        calling birds,");
665                    break;
666                case 5:
667                    System.out.println("Five
668                        golden rings,");
669                    break;
670                case 6:
671                    System.out.println("Six
672                        swans,");
673                    break;
674                case 7:
675                    System.out.println("Seven
676                        lambs,");
677                    break;
678                case 8:
679                    System.out.println("Eight
680                        dancing queens,");
681                    break;
682                case 9:
683                    System.out.print(" ninth ");
684                    break;
685                case 10:
686                    System.out.print(" tenth ");
687                    break;
688                case 11:
689                    System.out.print(" eleventh ");
690                    break;
691                case 12:
692                    System.out.print(" twelfth");
693                    break;
694            }
695        }
696    }
697
698    System.out.println(" day of Christmas, my
699        true love sent to me");
700
701    for(int k = i; k >= 0; k--)
702    {
703        switch(k)
704        {
705            case 1:
706                if(i > 1)
707                {
708                    System.out.print("and ");
709                    System.out.println("a
710                        Partridge in a Pear Tree.")
711                    ;
712                    break;
713                case 2:
714                    System.out.println("Two turtle
715                        doves,");
716                    break;
717                case 3:
718                    System.out.println("Three
719                        french hens,");
720                    break;
721                case 4:
722                    System.out.println("Four
723                        calling birds,");
724                    break;
725                case 5:
726                    System.out.println("Five
727                        golden rings,");
728                    break;
729                case 6:
730                    System.out.println("Six
731                        swans,");
732                    break;
733                case 7:
734                    System.out.println("Seven
735                        lambs,");
736                    break;
737                case 8:
738                    System.out.println("Eight
739                        dancing queens,");
740                    break;
741                case 9:
742                    System.out.print(" ninth ");
743                    break;
744                case 10:
745                    System.out.print(" tenth ");
746                    break;
747                case 11:
748                    System.out.print(" eleventh ");
749                    break;
750                case 12:
751                    System.out.print(" twelfth");
752                    break;
753            }
754        }
755    }
756
757    System.out.println(" day of Christmas, my
758        true love sent to me");
759
760    for(int k = i; k >= 0; k--)
761    {
762        switch(k)
763        {
764            case 1:
765                if(i > 1)
766                {
767                    System.out.print("and ");
768                    System.out.println("a
769                        Partridge in a Pear Tree.")
770                    ;
771                    break;
772                case 2:
773                    System.out.println("Two turtle
774                        doves,");
775                    break;
776                case 3:
777                    System.out.println("Three
778                        french hens,");
779                    break;
780                case 4:
781                    System.out.println("Four
782                        calling birds,");
783                    break;
784                case 5:
785                    System.out.println("Five
786                        golden rings,");
787                    break;
788                case 6:
789                    System.out.println("Six
790                        swans,");
791                    break;
792                case 7:
793                    System.out.println("Seven
794                        lambs,");
795                    break;
796                case 8:
797                    System.out.println("Eight
798                        dancing queens,");
799                    break;
800                case 9:
801                    System.out.print(" ninth ");
802                    break;
803                case 10:
804                    System.out.print(" tenth ");
805                    break;
806                case 11:
807                    System.out.print(" eleventh ");
808                    break;
809                case 12:
810                    System.out.print(" twelfth");
811                    break;
812            }
813        }
814    }
815
816    System.out.println(" day of Christmas, my
817        true love sent to me");
818
819    for(int k = i; k >= 0; k--)
820    {
821        switch(k)
822        {
823            case 1:
824                if(i > 1)
825                {
826                    System.out.print("and ");
827                    System.out.println("a
828                        Partridge in a Pear Tree.")
829                    ;
830                    break;
831                case 2:
832                    System.out.println("Two turtle
833                        doves,");
834                    break;
835                case 3:
836                    System.out.println("Three
837                        french hens,");
838                    break;
839                case 4:
840                    System.out.println("Four
841                        calling birds,");
842                    break;
843                case 5:
844                    System.out.println("Five
845                        golden rings,");
846                    break;
847                case 6:
848                    System.out.println("Six
849                        swans,");
850                    break;
851                case 7:
852                    System.out.println("Seven
853                        lambs,");
854                    break;
855                case 8:
856                    System.out.println("Eight
857                        dancing queens,");
858                    break;
859                case 9:
860                    System.out.print(" ninth ");
861                    break;
862                case 10:
863                    System.out.print(" tenth ");
864                    break;
865                case 11:
866                    System.out.print(" eleventh ");
867                    break;
868                case 12:
869                    System.out.print(" twelfth");
870                    break;
871            }
872        }
873    }
874
875    System.out.println(" day of Christmas, my
876        true love sent to me");
877
878    for(int k = i; k >= 0; k--)
879    {
880        switch(k)
881        {
882            case 1:
883                if(i > 1)
884                {
885                    System.out.print("and ");
886                    System.out.println("a
887                        Partridge in a Pear Tree.")
888                    ;
889                    break;
890                case 2:
891                    System.out.println("Two turtle
892                        doves,");
893                    break;
894                case 3:
895                    System.out.println("Three
896                        french hens,");
897                    break;
898                case 4:
899                    System.out.println("Four
900                        calling birds,");
901                    break;
902                case 5:
903                    System.out.println("Five
904                        golden rings,");
905                    break;
906                case 6:
907                    System.out.println("Six
908                        swans,");
909                    break;
910                case 7:
911                    System.out.println("Seven
912                        lambs,");
913                    break;
914                case 8:
915                    System.out.println("Eight
916                        dancing queens,");
917                    break;
918                case 9:
919                    System.out.print(" ninth ");
920                    break;
921                case 10:
922                    System.out.print(" tenth ");
923                    break;
924                case 11:
925                    System.out.print(" eleventh ");
926                    break;
927                case 12:
928                    System.out.print(" twelfth");
929                    break;
930            }
931        }
932    }
933
934    System.out.println(" day of Christmas, my
935        true love sent to me");
936
937    for(int k = i; k >= 0; k--)
938    {
939        switch(k)
940        {
941            case 1:
942                if(i > 1)
943                {
944                    System.out.print("and ");
945                    System.out.println("a
946                        Partridge in a Pear Tree.")
947                    ;
948                    break;
949                case 2:
950                    System.out.println("Two turtle
951                        doves,");
952                    break;
953                case 3:
954                    System.out.println("Three
955                        french hens,");
956                    break;
957                case 4:
958                    System.out.println("Four
959                        calling birds,");
960                    break;
961                case 5:
962                    System.out.println("Five
963                        golden rings,");
964                    break;
965                case 6:
966                    System.out.println("Six
967                        swans,");
968                    break;
969                case 7:
970                    System.out.println("Seven
971                        lambs,");
972                    break;
973                case 8:
974                    System.out.println("Eight
975                        dancing queens,");
976                    break;
977                case 9:
978                    System.out.print(" ninth ");
979                    break;
980                case 10:
981                    System.out.print(" tenth ");
982                    break;
983                case 11:
984                    System.out.print(" eleventh ");
985                    break;
986                case 12:
987                    System.out.print(" twelfth");
988                    break;
989            }
990        }
991    }
992
993    System.out.println(" day of Christmas, my
994        true love sent to me");
995
996    for(int k = i; k >= 0; k--)
997    {
998        switch(k)
999        {
1000            case 1:
1001                if(i > 1)
1002                {
1003                    System.out.print("and ");
1004                    System.out.println("a
1005                        Partridge in a Pear Tree.")
1006                    ;
1007                    break;
1008                case 2:
1009                    System.out.println("Two turtle
1010                        doves,");
1011                    break;
1012                case 3:
1013                    System.out.println("Three
1014                        french hens,");
1015                    break;
1016                case 4:
1017                    System.out.println("Four
1018                        calling birds,");
1019                    break;
1020                case 5:
1021                    System.out.println("Five
1022                        golden rings,");
1023                    break;
1024                case 6:
1025                    System.out.println("Six
1026                        swans,");
1027                    break;
1028                case 7:
1029                    System.out.println("Seven
1030                        lambs,");
1031                    break;
1032                case 8:
1033                    System.out.println("Eight
1034                        dancing queens,");
1035                    break;
1036                case 9:
1037                    System.out.print(" ninth ");
1038                    break;
1039                case 10:
1040                    System.out.print(" tenth ");
1041                    break;
1042                case 11:
1043                    System.out.print(" eleventh ");
1044                    break;
1045                case 12:
1046                    System.out.print(" twelfth");
1047                    break;
1048            }
1049        }
1050    }
1051
1052    System.out.println(" day of Christmas, my
1053        true love sent to me");
1054
1055    for(int k = i; k >= 0; k--)
1056    {
1057        switch(k)
1058        {
1059            case 1:
1060                if(i > 1)
1061                {
1062                    System.out.print("and ");
1063                    System.out.println("a
1064                        Partridge in a Pear Tree.")
1065                    ;
1066                    break;
1067                case 2:
1068                    System.out.println("Two turtle
1069                        doves,");
1070                    break;
1071                case 3:
1072                    System.out.println("Three
1073                        french hens,");
1074                    break;
1075                case 4:
1076                    System.out.println("Four
1077                        calling birds,");
1078                    break;
1079                case 5:
1080                    System.out.println("Five
1081                        golden rings,");
1082                    break;
1083                case 6:
1084                    System.out.println("Six
1085                        swans,");
1086                    break;
1087                case 7:
1088                    System.out.println("Seven
1089                        lambs,");
1090                    break;
1091                case 8:
1092                    System.out.println("Eight
1093                        dancing queens,");
1094                    break;
1095                case 9:
1096                    System.out.print(" ninth ");
1097                    break;
1098                case 10:
1099                    System.out.print(" tenth ");
1100                    break;
1101                case 11:
1102                    System.out.print(" eleventh ");
1103                    break;
1104                case 12:
1105                    System.out.print(" twelfth");
1106                    break;
1107            }
1108        }
1109    }
1110
1111    System.out.println(" day of Christmas, my
1112        true love sent to me");
1113
1114    for(int k = i; k >= 0; k--)
1115    {
1116        switch(k)
1117        {
1118            case 1:
1119                if(i > 1)
1120                {
1121                    System.out.print("and ");
1122                    System.out.println("a
1123                        Partridge in a Pear Tree.")
1124                    ;
1125                    break;
1126                case 2:
1127                    System.out.println("Two turtle
1128                        doves,");
1129                    break;
1130                case 3:
1131                    System.out.println("Three
1132                        french hens,");
1133                    break;
1134                case 4:
1135                    System.out.println("Four
1136                        calling birds,");
1137                    break;
1138                case 5:
1139                    System.out.println("Five
1140                        golden rings,");
1141                    break;
1142                case 6:
1143                    System.out.println("Six
1144                        swans,");
1145                    break;
1146                case 7:
1147                    System.out.println("Seven
1148                        lambs,");
1149                    break;
1150                case 8:
1151                    System.out.println("Eight
1152                        dancing queens,");
1153                    break;
1154                case 9:
1155                    System.out.print(" ninth ");
1156                    break;
1157                case 10:
1158                    System.out.print(" tenth ");
1159                    break;
1160                case 11:
1161                    System.out.print(" eleventh ");
1162                    break;
1163                case 12:
1164                    System.out.print(" twelfth");
1165                    break;
1166            }
1167        }
1168    }
1169
1170    System.out.println(" day of Christmas, my
1171        true love sent to me");
1172
1173    for(int k = i; k >= 0; k--)
1174    {
1175        switch(k)
1176        {
1177            case 1:
1178                if(i > 1)
1179                {
1180                    System.out.print("and ");
1181                    System.out.println("a
1182                        Partridge in a Pear Tree.")
1183                    ;
1184                    break;
1185                case 2:
1186                    System.out.println("Two turtle
1187                        doves,");
1188                    break;
1189                case 3:
1190                    System.out.println("Three
1191                        french hens,");
1192                    break;
1193                case 4:
1194                    System.out.println("Four
1195                        calling birds,");
1196                    break;
1197                case 5:
1198                    System.out.println("Five
1199                        golden rings,");
1200                    break;
1201                case 6:
1202                    System.out.println("Six
1203                        swans,");
1204                    break;
1205                case 7:
1206                    System.out.println("Seven
1207                        lambs,");
1208                    break;
1209                case 8:
1210                    System.out.println("Eight
1211                        dancing queens,");
1212                    break;
1213                case 9:
1214                    System.out.print(" ninth ");
1215                    break;
1216                case 10:
1217                    System.out.print(" tenth ");
1218                    break;
1219                case 11:
1220                    System.out.print(" eleventh ");
1221                    break;
1222                case 12:
1223                    System.out.print(" twelfth");
1224                    break;
1225            }
1226        }
1227    }
1228
1229    System.out.println(" day of Christmas, my
1230        true love sent to me");
1231
1232    for(int k = i; k >= 0; k--)
1233    {
1234        switch(k)
1235        {
1236            case 1:
1237                if(i > 1)
1238                {
1239                    System.out.print("and ");
1240                    System.out.println("a
1241                        Partridge in a Pear Tree.")
1242                    ;
1243                    break;
1244                case 2:
1245                    System.out.println("Two turtle
1246                        doves,");
1247                    break;
1248                case 3:
1249                    System.out.println("Three
1250                        french hens,");
1251                    break;
1252                case 4:
1253                    System.out.println("Four
1254                        calling birds,");
1255                    break;
1256                case 5:
1257                    System.out.println("Five
1258                        golden rings,");
1259                    break;
1260                case 6:
1261                    System.out.println("Six
1262                        swans,");
1263                    break;
1264                case 7:
1265                    System.out.println("Seven
1266                        lambs,");
1267                    break;
1268                case 8:
1269                    System.out.println("Eight
1270                        dancing queens,");
1271                    break;
1272                case 9:
1273                    System.out.print(" ninth ");
1274                    break;
1275                case 10:
1276                    System.out.print(" tenth ");
1277                    break;
1278                case 11:
1279                    System.out.print(" eleventh ");
1280                    break;
1281                case 12:
1282                    System.out.print(" twelfth");
1283                    break;
1284            }
1285        }
1286    }
1287
1288    System.out.println(" day of Christmas, my
1289        true love sent to me");
1290
1291    for(int k = i; k >= 0; k--)
1292    {
1293        switch(k)
1294        {
1295            case 1:
1296                if(i > 1)
1297                {
1298                    System.out.print("and ");
1299                    System.out.println("a
1300                        Partridge in a Pear Tree.")
1301                    ;
1302                    break;
1303                case 2:
1304                    System.out.println("Two turtle
1305                        doves,");
1306                    break;
1307                case 3:
1308                    System.out.println("Three
1309                        french hens,");
1310                    break;
1311                case 4:
1312                    System.out.println("Four
1313                        calling birds,");
1314                    break;
1315                case 5:
1316                    System.out.println("Five
1317                        golden rings,");
1318                    break;
1319                case 6:
1320                    System.out.println("Six
1321                        swans,");
1322                    break;
1323                case 7:
1324                    System.out.println("Seven
1325                        lambs,");
1326                    break;
1327                case 8:
1328                    System.out.println("Eight
1329                        dancing queens,");
1330                    break;
1331                case 9:
1332                    System.out.print(" ninth ");
1333                    break;
1334                case 10:
1335                    System.out.print(" tenth ");
1336                    break;
1337                case 11:
1338                    System.out.print(" eleventh ");
1339                    break;
1340                case 12:
1341                    System.out.print(" twelfth");
1342                    break;
1343            }
1344        }
1345    }
1346
1347    System.out.println(" day of Christmas, my
1348        true love sent to me");
1349
1350    for(int k = i; k >= 0; k--)
1351    {
1352        switch(k)
1353        {
1354            case 1:
1355                if(i > 1)
1356                {
1357                    System.out.print("and ");
1358                    System.out.println("a
1359                        Partridge in a Pear Tree.")
1360                    ;
1361                    break;
1362                case 2:
1363                    System.out.println("Two turtle
1364                        doves,");
1365                    break;
1366                case 3:
1367                    System.out.println("Three
1368                        french hens,");
1369                    break;
1370                case 4:
1371                    System.out.println("Four
1372                        calling birds,");
1373                    break;
1374                case 5:
1375                    System.out.println("Five
1376                        golden rings,");
1377                    break;
1378                case 6:
1379                    System.out.println("Six
1380                        swans,");
1381                    break;
1382                case 7:
1383                    System.out.println("Seven
1384                        lambs,");
1385                    break;
1386                case 8:
1387                    System.out.println("Eight
1388                        dancing queens
```

```

74         case 6:
75             System.out.println("Six geese
              a-laying,");
76             break;
77         case 7:
78             System.out.println("Seven
              swans a-swimming,");
79             break;
80         case 8:
81             System.out.println("Eight
              maids a-milking,");
82             break;
83         case 9:
84             System.out.println("Nine
              ladies dancing,");
85             break;
86         case 10:
87             System.out.println("Ten lords
              a-leaping,");
88             break;
89         case 11:
90             System.out.println("Eleven
              pipers piping,");
91             break;
92         case 12:
93             System.out.println("Twelve
              drummers drumming,");
94             break;
95     }
96 }
97 System.out.println();
98 }
99 }
100 }

```

3.5.2 Evidencias

```
/usr/lib/jvm/java-11-amazon-corretto/bin/java -javaagent:/
The Twelve Days of Christmas - Lyrics

On the first day of Christmas, my true love sent to me
a Partridge in a Pear Tree.

On the second day of Christmas, my true love sent to me
Two turtle doves,
and a Partridge in a Pear Tree.

On the third day of Christmas, my true love sent to me
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

On the fourth day of Christmas, my true love sent to me
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.
```

Figure 12: Output Clase Christmas Ejemplo 1

On the fifth day of Christmas, my true love sent to me
Five golden rings,
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

On the sixth day of Christmas, my true love sent to me
Six geese a-laying,
Five golden rings,
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

On the seventh day of Christmas, my true love sent to me
Seven swans a-swimming,
Six geese a-laying,
Five golden rings,
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

Figure 13: Output Clase Christmas Ejemplo 2

On the eighth day of Christmas, my true love sent to me
Eight maids a-milking,
Seven swans a-swimming,
Six geese a-laying,
Five golden rings,
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

On the ninth day of Christmas, my true love sent to me
Nine ladies dancing,
Eight maids a-milking,
Seven swans a-swimming,
Six geese a-laying,
Five golden rings,
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

Figure 14: Output Clase Christmas Ejemplo 3

On the tenth day of Christmas, my true love sent to me
Ten lords a-leaping,
Nine ladies dancing,
Eight maids a-milking,
Seven swans a-swimming,
Six geese a-laying,
Five golden rings,
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

On the eleventh day of Christmas, my true love sent to me
Eleven pipers piping,
Ten lords a-leaping,
Nine ladies dancing,
Eight maids a-milking,
Seven swans a-swimming,
Six geese a-laying,
Five golden rings,
Four calling birds,
Three french hens,
Two turtle doves,
and a Partridge in a Pear Tree.

Figure 15: Output Clase Christmas Ejemplo 4

```
On the twelfth day of Christmas, my true love sent to me  
Twelve drummers drumming,  
Eleven pipers piping,  
Ten lords a-leaping,  
Nine ladies dancing,  
Eight maids a-milking,  
Seven swans a-swimming,  
Six geese a-laying,  
Five golden rings,  
Four calling birds,  
Three french hens,  
Two turtle doves,  
and a Partridge in a Pear Tree.  
  
Process finished with exit code 0
```

Figure 16: Output Clase Christmas Ejemplo 5

4 Conclusiones

Durante esta practica me gusto hacerla pues no se me hizo tan complicado a excepcion del ultimo ejercicio que estuvo un poco "tricky", pero al final me salio muy bien. En realidad algo que me doy cuenta, es que en general, los lenguajes de programacion no difieren mucho unos de los otros, pues la mayoría estan relacionados en cuanto a los usos de las estructuras de control, loops, tipos de datos primitivos, etc.

La unica cosa en la que por lo regular cambian los lenguajes es en su sintaxis en ocasiones y el paradigma que presentan.

Uno de los principales cambios con respecto de este lenguaje Java que si me llamo la atencion es la parte de los objetos, pues aun me estoy familiarizando con el tema. Tambien la parte de los "getters" y "setters" aunque aun no la comprendo del todo, me parece que es casi una funcion para cada una de las variables en vez de poder hacer una para todas. Aunque aun no entiendo del todo como funcionan apropiadamente,

En general la practica no se me hizo del todo complicada y me parece que quedo muy bien.

Gracias por leer mi practica.