

كتاب الجافا العربي

النسخة الأولى

اعداد و تأليف

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الموقع : <http://www.cpress.cc>

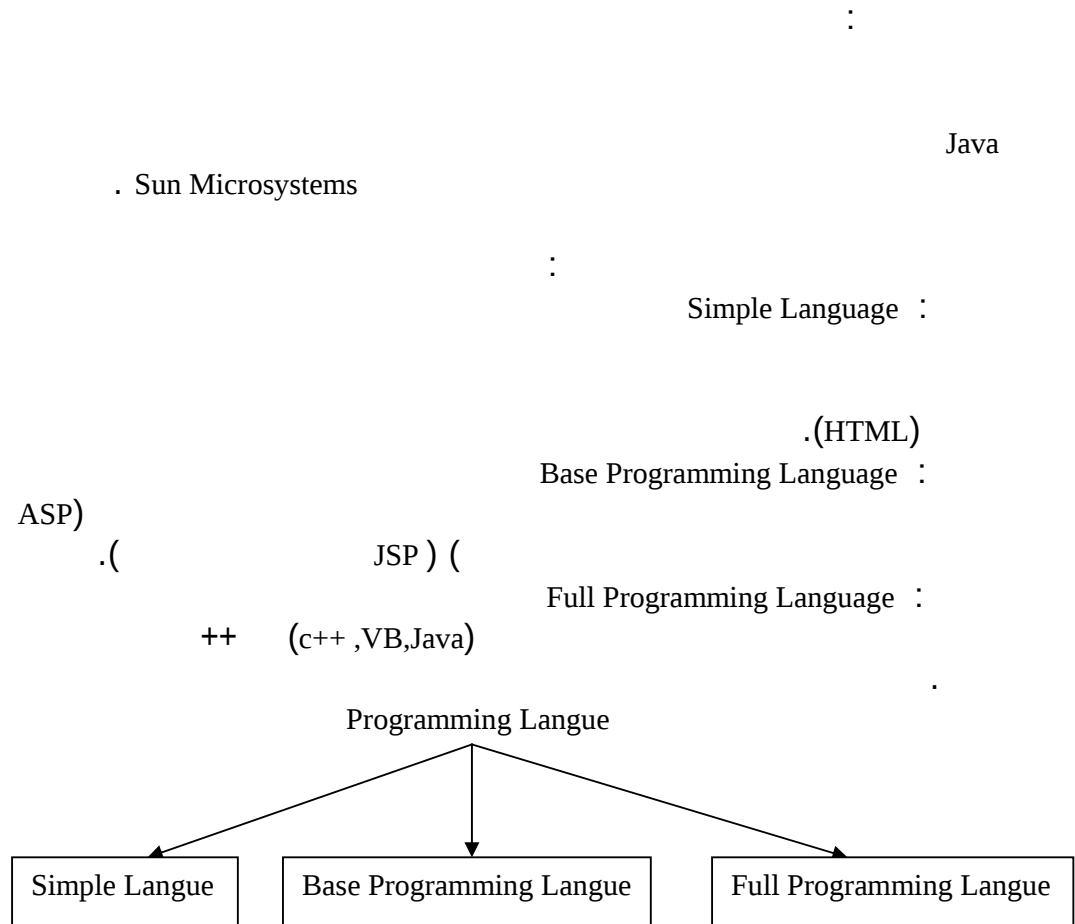
شكر الى الأخ

هاشم الأطرش (Dr-dre67)

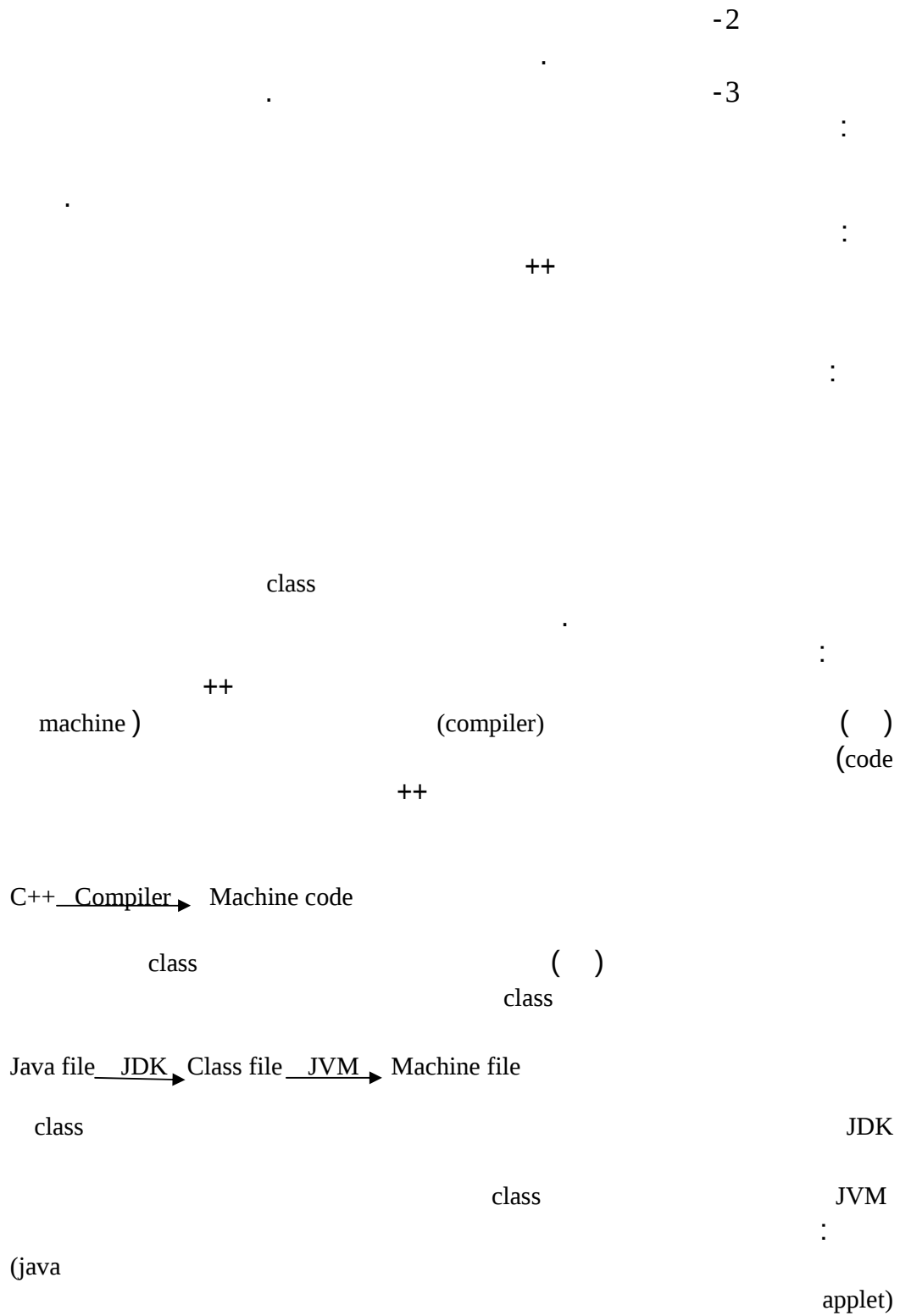
بريد : hachemsoft@yahoo.fr

الموقع : <http://www.the-soft.net>

جميع الحقوق محفوظة للمؤلف و سوائف سوفت 2004



(Object Oriented Programming)



:

(Java 2 Platform)

java.sun.com

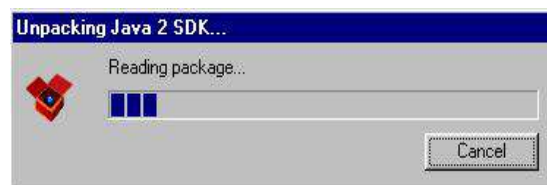
Java 2 Platform, Standard Edition 1.3



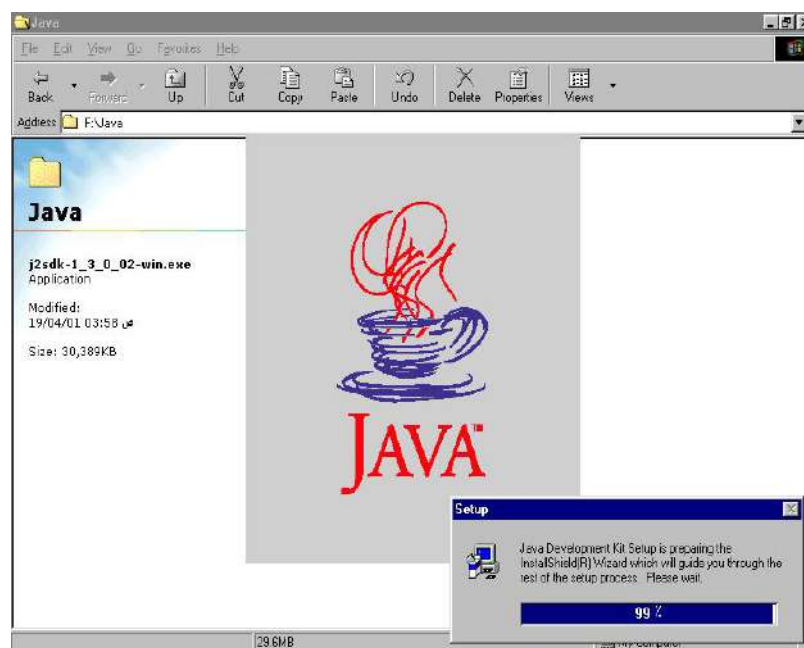
(Double Click)

-1

-2



-3



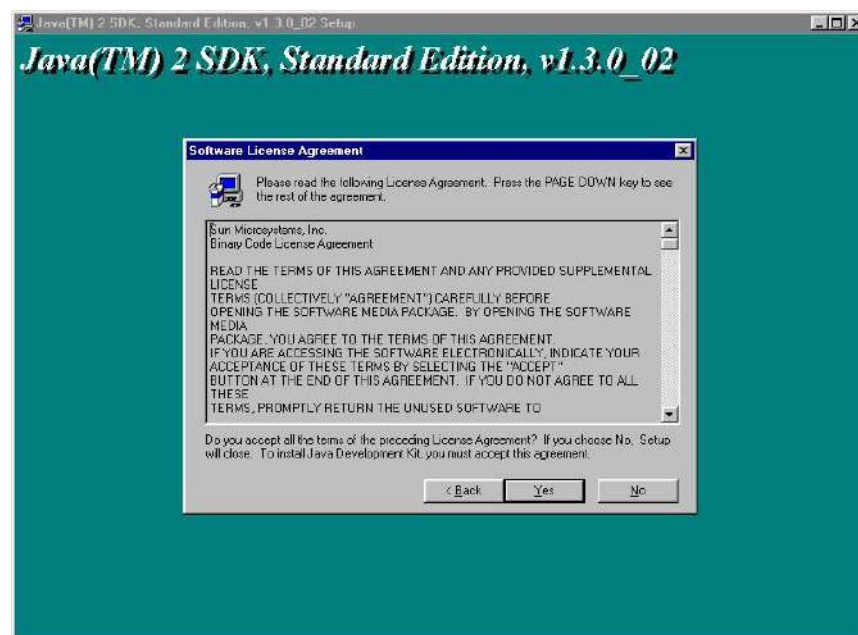
Next

-4



-5

Yes



-6

Browse

Next



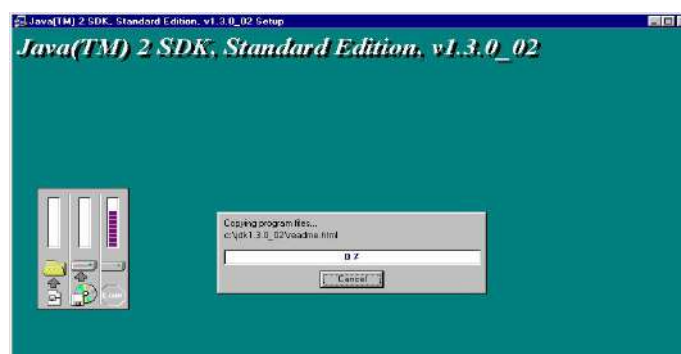
Next

-7



-8

%100



-9



Finish

-10



[illegible]

```
.main
```

□

□

-1

(Small letters)

-2

-3

+

—

/

*

$$=$$

%

!

/

11

1

•

,

;

2

)

1

]
[

 $\angle$
$$>$$

?

$$\vdots$$

\n

(escape sequences)

n \

.

:

(main words)

(reserved words)

auto	,	extern	,	sizeof	,	break	,	if
float	,	static	,	case	,	struct	,	for
char	,	goto	,	switch	,	const	,	int
typeof	,	continue	,	union	,	default	,	do
long	,	register	,	void	,	double	,	else
return	,	volatile	,	short	,	while	,	for
while	,	enum	,	signed	,	near	,	asm
entry	,	fortran	,	huge	,	pascal	,	ada

:

:

:

(identifiers)

,

:

(under score) ()

-1

-2

(

)

()

()

-3

)

-4

VALUE

value (

-5

-6

-7

X , area10 , Y15 , tax_rate
Sum_4, total_value , REAL , Name
_temperature
&address , 5th , last name , order-no ,
char , "a"

:
(comments)

/ /

.
.
. //

:
(escape character)

\
.

\b	
\n	
\r	
\t	7
\"	
\'	
\?	
\\	

•

•

■

integer constant

-1

■

■

floating point

-2

10

E e

10

4e5

40000

(0.999999999999999)

1

■

character constants

-3

'a' , '5' , '\n' , 65

■

'A'

65

ASCII

7

string constant

-4

■ || ||

•

•

■

()

■

■

:-1

$$\begin{array}{r} : \\ : \end{array} \quad -2$$

: -3

:-4

•

•

()

Data Type

•

•

■

■

1 bit

()

boolean -1

(true or false)

false

-128
 (100-,6-,10,20) (1 byte) 8 bit
 byte -2
 127
 char -3
 (a , n , \t , 56 , 126) (2 byte) 16 bit
 -32768 short -4
 32767
 16 bit
 -2147483648 int -5
 2147483647
 4 byte 32 bit
 (218888- ,20000,50000)
 float -6
 +/-1.40239846E-45 , +/-3.40282347E+38
 (88.65 , 222.357 , 2.555) 32 bit
 (500) (5e2) 10
 double float double -7
 8 byte 64 bit +/-4.9e-324 +/-1.8e308
 long -8

Type	Contains	Default value	Size (bits)	Min and Max values
boolean	true or false	false	1	Not Applicable
char	Unicode character	\u0000	16	\u0000 to \uFFFF
byte	signed integer	0	8	-128 to 127
short	signed integer	0	16	-32768 to 32767
int	signed integer	0	32	-2147483648 to 2147483647
long	signed integer	-	64	-9223372036854775808 to 9223372036854775807
float	IEEE754 flt. pt.	0.0	32	+/-3.40282347E+38 to +/-1.40239846E-45
double	IEEE754 flt. pt.	0.0	64	+/-1.79769313486231570E+308 to +/-4.94065645841246544E-324

:

operators

: +
 : -
 : *

: /

a=15 , b=4
a/b=3.75

a,b

3

b=4.0 a=15.0
3.75
: %

a=11 , b=2
- a%b = -1 a%-b=1 a%b = 1

.

:

(-)

increment operator

: ++

a++ a=5

a++

a=a+1

a=6

a

b=15

b=(a++)*3

6

a

b=18

b=(++a)*3

decrement operator

: --

a=4

a--

a=5

a--

a=a-1

:

```

(      )
:
false  true
:  <
:  =<
:  >
:  =>
a=5 , b=6
z=true      z=a<b

```

```

a      true      a!=b      !=
      ==  =      ==      b

```

```

5      z      z=a      a=5 , b=6
      .      false      a = b
      .

```

```

:
```

```

:      . false  true
true      :and  &&
      &
a>0      true      a=5 , b=6  :
      ( a > 0 ) && ( a< b)
      .      a<b
:
```

(true)	(true)	&&	(true)
(false)	(true)	&&	(false)
(false)	(false)	&&	(true)
(false)	(false)	&&	(false)

```

true      : or  ||
(      shit + \      ) |

```

:

(true)	(true)		(true)
(true)	(true)		(false)
(true)	(false)		(true)
(false)	(false)		(false)

: not !

:

(false)	!	(true)
(true)	!	(false)

:

assignment

expression

. assignment ststment
(=)

identifier = expression

.

. ()

j = k = 6

. 6

j

6

k

== =

:

+=

,

- =

,

* =

,

/ =

,

% =

y = 6

,

x = 5

x = x + y

x

x = 11

x = 5 + 6

x

x += y

x = x + y

f=c float f , char c='A' float char
float 65.0 f
.
float , double byte,int,short,long

:
() expression
()
.
statement
:
-1
-2
{ }
:-3

:
.
class
()
c:
.java c:\jdk1.3.0_02\bin
j2sdk

(filename.java)

dos

:

98



start

-1



programs

-2



Ms-Dos Prompt

-3



start

-1

Run

-2

ok

cmd

-3

c:\jdk1.3.0_02\bin

cd..

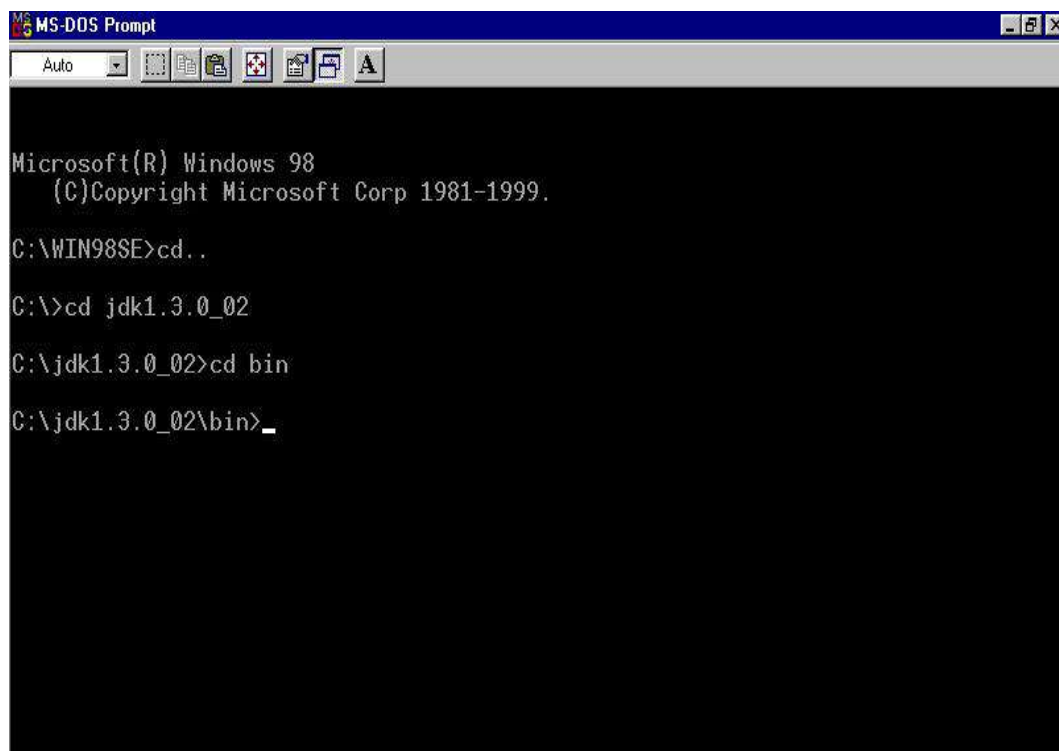
-1

cd jdk1.3.0_02

-2

cd bin

-3



```
.class
javac filename.java
    filename.class
java filename
    class
    :
    Hello
notepad
class Hello
{
    public static void main(String []arg)
    {
        System.out.println("Hello");
    }
}
```

```
jdk1.3.0_02
bin
c:
Hello.java
```

```
MS-DOS Prompt
Auto
C:\>cd jdk1.3.0_02
C:\jdk1.3.0_02>cd bin
C:\jdk1.3.0_02\bin>javac Hello.java
C:\jdk1.3.0_02\bin>java Hello
Hello
C:\jdk1.3.0_02\bin>
```

```

class Hello
{
}

package
java.lang
System.out.println
method

class
System
out
method
package
println
method

.
:

System class
class
out
println
java.lang
System
out

.
;

```

:

byte

5

b

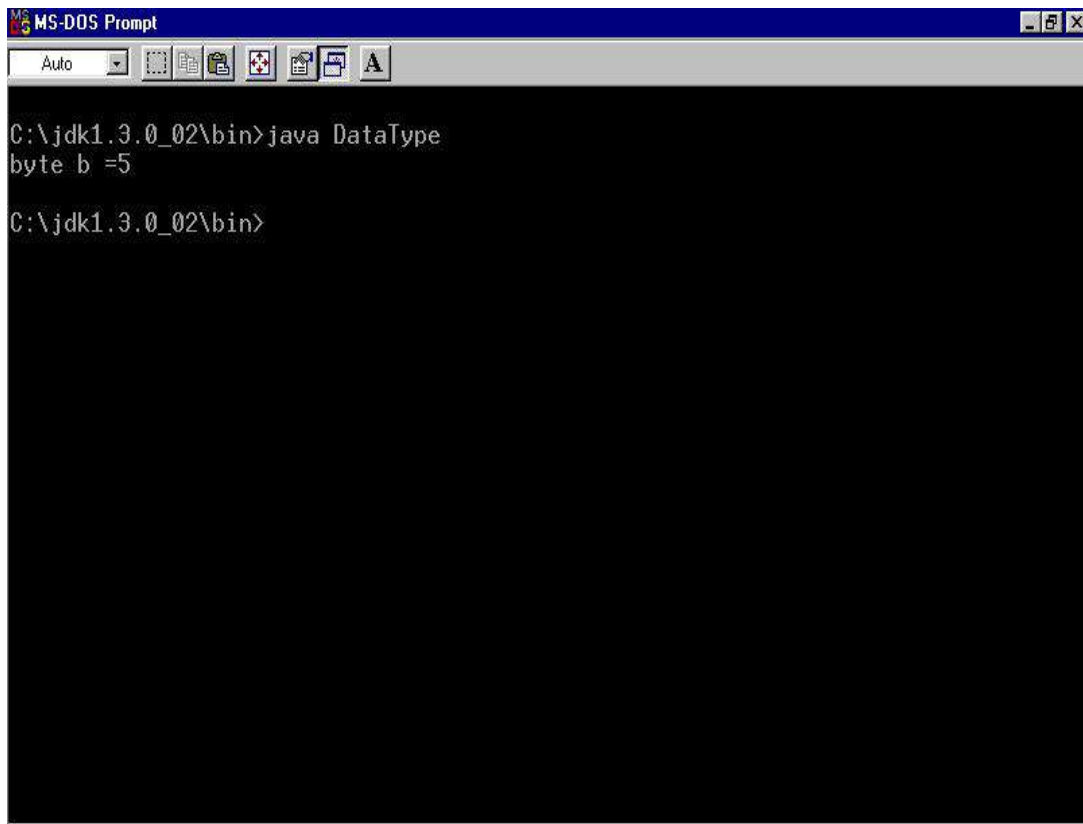
b

b

```
byte b = 5 ;
```

```
class DataType
{
    public static void main(String []arg)
    {
        byte b=5;
        System.out.println("byte b =" +b);
    }
}
```

!



The screenshot shows a classic MS-DOS Prompt window with a blue title bar and a toolbar. The command prompt shows the execution of a Java program. The output of the program is displayed on the screen.

```
MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>java DataType
byte b =5
C:\jdk1.3.0_02\bin>
```

+

.

```
s=100 ,      i=10000 ,      L=10000000000      ,      d=105.55      , c='G'  
state=false
```

:

```
s=100 ,      i=10000 ,      L=10000000000      ,      d=105.55      , c='G'  
state=false
```

.

```
class DataType  
{  
    public static void main(String []arg)  
    {  
  
        short s=100 ;  
        int i=10000 ;  
        long L=10000000000;  
        float d=105.55f ;  
        char c='G';  
        boolean state=false;  
  
        System.out.println("s =" +s+"      "+"i=" +i);  
        System.out.println("L =" +L+"      "+"d=" +d);  
        System.out.println("c =" +c+"      "+"state=" +state);  
  
    }  
}
```

```

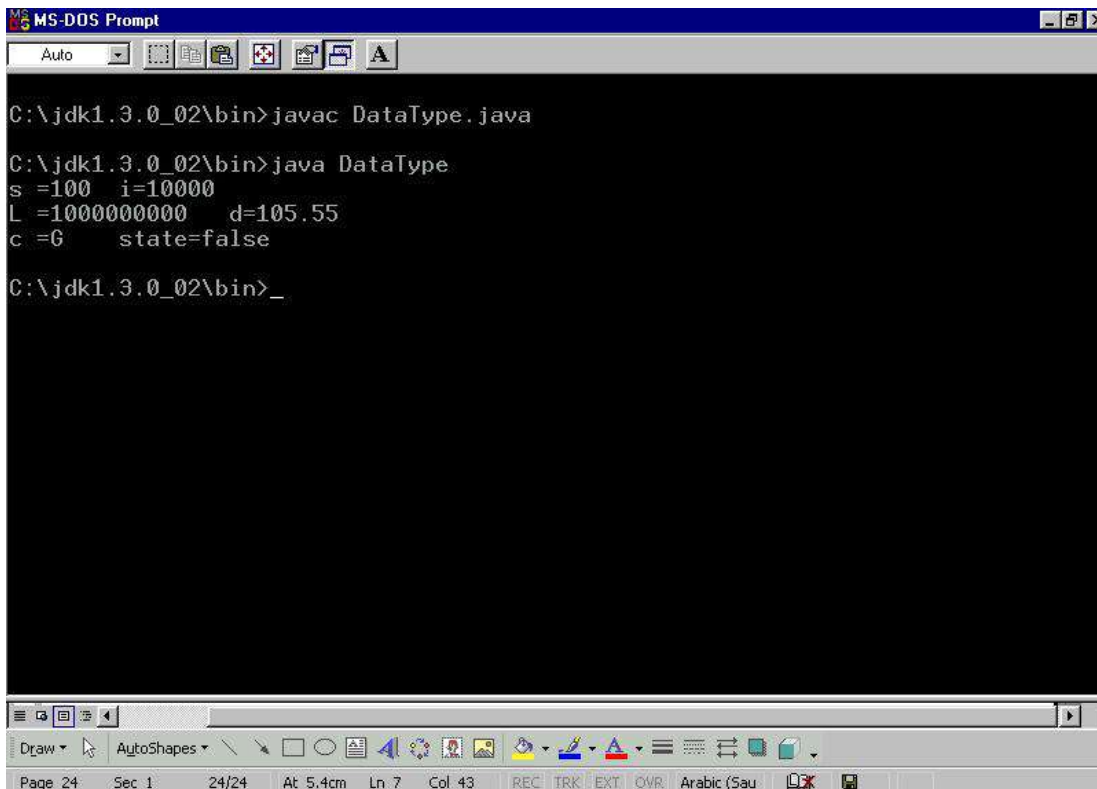
class DataType
{
    public static void main(String []arg)
    {

        short s=100 ;
        int i=10000 ;
        long L=1000000000;
        float d=105.55f ;
        char c='G';
        boolean state=false;

        System.out.println("s="+s+"\t"+"i="+i+"\n"+"L="+L+"\t"+"d="+d+"\n"+"c="
c+"\t"+"state="+state);

    }
}

```



```

MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>javac DataType.java
C:\jdk1.3.0_02\bin>java DataType
s =100  i=10000
L =1000000000  d=105.55
c =G    state=false
C:\jdk1.3.0_02\bin>_

```

The screenshot shows a Windows XP desktop environment with a taskbar at the bottom. The active window is titled "MS-DOS Prompt". The command prompt shows the following sequence of commands and output:

- Command: `javac DataType.java`
- Command: `java DataType`
- Output:


```
s =100  i=10000
L =1000000000  d=105.55
c =G    state=false
```
- The prompt ends with `C:\jdk1.3.0_02\bin>_`.

The taskbar at the bottom includes a "Draw" toolbar with various drawing tools, and a status bar showing "Page 24", "Sec 1", "24/24", "At 5.4cm", "Ln 7", "Col 43", and a language indicator set to "Arabic (Sau)".

f float double

.

:

b=4 , a=15 a,b

```
class ArithOper
{
    public static void main(String []arg)
    {

        int a=15;
        int b=4;
        int x,y,z,v,u;
        float f,c=4.0f;
        x=a+b;
        y=a-b;
        z=a*b;
        v=a/b;
        f=a/c;
        u=a%b;
        System.out.println("a+b="+x);
        System.out.println("a-b="+y);
        System.out.println("a*b="+z);
        System.out.println("a/b="+v+"\t"+"a/b="+f);
        System.out.println("a%b="+u);

    }
}
```

.

```
MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>java ArithOper
a+b=19
a-b=11
a*b=60
a/b=3    a/b=3.75
a%b=3
C:\jdk1.3.0_02\bin>
, a=12.5    a,b
Ln 1, Col 7, Char 16
DOS NUM
b=2.5
```

```
class ArithOper1
{
    public static void main(String []arg)
    {

        float a=12.5f , b=2.5f;
        float x,y,z,v,u;
        x=a+b;
        y=a-b;
        z=a*b;
        v=a/b;
        u=a%b;
        System.out.println("a+b="+x+"\n"+"a-
b="+y+"\n"+"a*b="+z+"\n"+"a/b="+v+"\n"+"a%b="+u);
```

```

    }
}

```

```

MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>java ArithOper1
a+b=15.0
a-b=10.0
a*b=31.25
a/b=5.0
a%b=0.0
C:\jdk1.3.0_02\bin>_

```

5

i,j

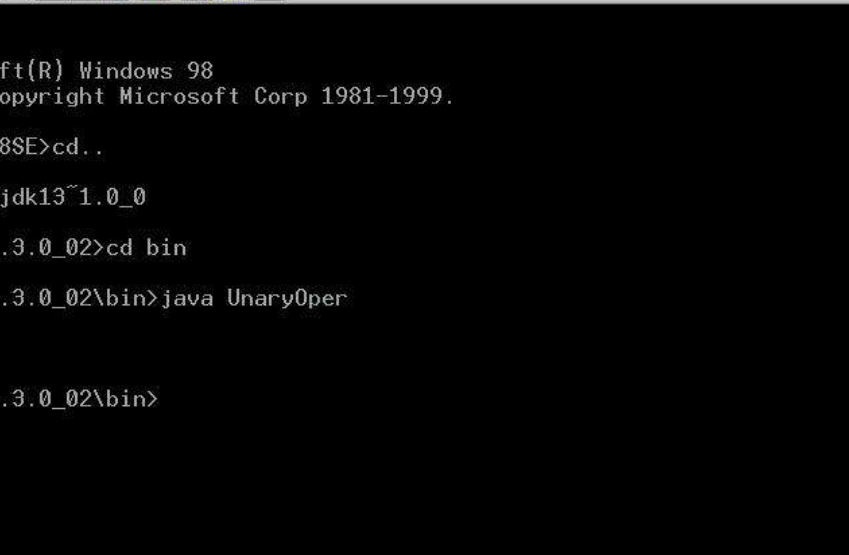
```

class UnaryOper
{
    public static void main(String []arg)
    {

        int a,b,i,j;
        i=j=5;
        a=i++ * 3;
        b=++j *3;
        System.out.println("a = "+a+"\n"+"b = "+b);

    }
}

```



The screenshot shows a classic Windows 98 desktop environment. In the foreground, an 'MS-DOS Prompt' window is open. The window's title bar reads 'MS-DOS Prompt' and includes standard Windows 98 window controls (minimize, maximize, close). Below the title bar is a menu bar with 'Auto' and a dropdown arrow, followed by icons for various file operations (copy, paste, delete, etc.). The main area of the window is black and contains white text representing a command-line session. The text shows the user navigating through directories and running a Java program. The output of the program shows two variables, 'a' and 'b', with values 15 and 18 respectively. The window is positioned over a desktop background that features a grid of icons, including 'My Computer', '3.5 Floppy (A:)', 'Recycle Bin', and several folders like 'Programs', 'Documents', and 'Settings'.

```
Microsoft(R) Windows 98
(C)Copyright Microsoft Corp 1981-1999.

C:\WIN98SE>cd..

C:\>cd jdk13~1.0_0

C:\jdk1.3.0_02>cd bin

C:\jdk1.3.0_02\bin>java Unary0per
a = 15
b = 18

C:\jdk1.3.0_02\bin>
```

z 9 1 x1
10
z=9
x2=8
.



```
MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>java UnaryOper1
x1 = 10
x2 = 8
C:\jdk1.3.0_02\bin>
```

:

.

i=7,f=5.5,c='w' i,f,c

:

```
(i>=6)&&(c==119)
(i>6)|| (c=='w')
(f<11)&&(i>100)
(c!='p')||((i+f)<=10)
```

```
class LogOper
{
    public static void main(String []arg)
    {
```

```
        boolean b1,b2,b3,b4;
        int i=7;
        float f=5.5f;
        char c='w';
        b1=(i>=6)&&(c==119);
        b2= (i>6)|| (c=='w');
        b3=(f<11)&&(i>100);
        b4=(c!='p')||((i+f)<=10);
```

```
        System.out.println("(i>=6)&&(c==119) is "+b1);
        System.out.println("(i>6)|| (c=='w') is "+b2);
```

```
System.out.println("(f<11)&&(i>100) is "+b3);
System.out.println("(c!='p')||((i+f)<=10) is "+b4);
```

```
    }
}
```

The screenshot shows a Windows command prompt window titled "MS-DOS Prompt". The command executed is `java LogOper`. The output is as follows:

```
C:\jdk1.3.0_02\bin>java LogOper
(i>6)&&(c==119) is true
(i>6)||((c=='w')) is true
(f<11)&&(i>100) is false
(c!='p')||((i+f)<=10) is true
C:\jdk1.3.0_02\bin>_
```

true

.or
and false

true

:

.
i=6,j=8,f=6.6,k=-4.25 i,j,f,k
:

```
i=i+6
f=f-k
j=j*(i-4)
f=f/4
i=i%(j-2)
```

```
class AssOper
```

```

{
    public static void main(String []arg)
    {

        int i=6,j=8;
        float f=6.5f,k=-4.25f;
        System.out.println("i=i+6    ->  i="+i+=6));
        System.out.println("f=f-k    ->  f= "+f-=k));
        System.out.println("j=j*(i-4) ->  j="+j*=(i-4));
        System.out.println("f=f/4    ->  f="+f/=4));
        System.out.println("i=i%(j-2) ->  i="+i%=(j-2));

    }
}

```

```

MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>java Ass0per
i=i+6      ->   i=12
f=f-k      ->   f= 10.75
j=j*(i-4)  ->   j=64
f=f/4      ->   f=2.6875
i=i%(j-2)  ->   i=12
C:\jdk1.3.0_02\bin>_

```

while statement

while ()

while ()

```

{
}

{ }

true                                     true
                                     flae
                                     . }

7    0

class WhileSt
{
    public static void main(String []arg)
    {

        int i=0;
        while (i<=7)
        {
            System.out.println(i);
            ++i;
        }

    }
}

:
i
7      i      while
i      i      :
.      { }      1
:

```

```

Microsoft(R) Windows 98
(C)Copyright Microsoft Corp 1981-1999.

C:\WIN98SE>cd..

C:\>cd jdk13~1.0_0

C:\jdk1.3.0_02>cd bin

C:\jdk1.3.0_02\bin>java WhileSt
0
1
2
3

```

```

class WhileSt1
{
    public static void main(String []arg)
    {

        int i=0;
        while (i<=7)

            System.out.println(i++);

    }
}

```

```

while
.
while
.

```

!

```

class WhileSt2
{
    public static void main(String []arg)
    {

```

```

        int i=0;

```

```

        while (++i<=7);
        System.out.println(i);
    }
}

1      i      while
:      8      i

```

```

MS-DOS Prompt
Auto
Microsoft(R) Windows 98
(C)Copyright Microsoft Corp 1981-1999.
C:\WIN98SE>cd..
C:\>cd jdk13\1.0_0
C:\jdk1.3.0_02>cd bin
C:\jdk1.3.0_02\bin>java WhileSt2
8
C:\jdk1.3.0_02\bin>_

```

```

class WhileSt3
{
    public static void main(String []arg)
    {

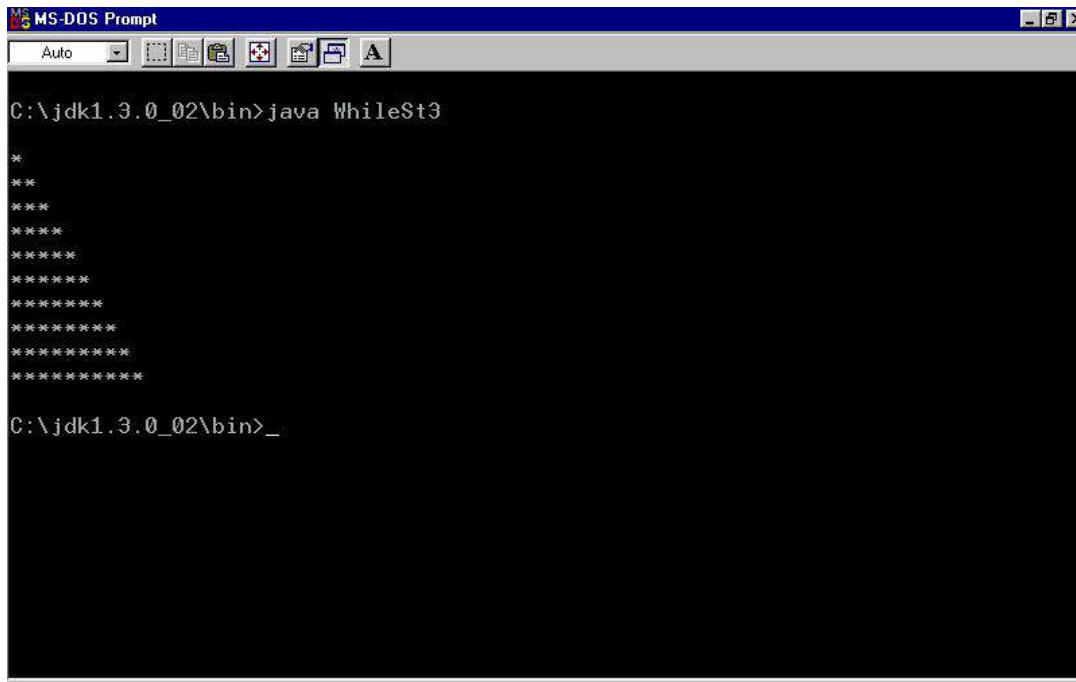
        int b,a=0;
        while (a<=10)
        {
            b=1;
            while(b<=a)
            {
                System.out.print ("*");
                ++b;
            }
            System.out.print ("\n");
            ++a;
        }
    }
}

```

```

    }
}
}

```



```

while 1 a
while b=1
a

```

while

```

class WhileSt4
{
    public static void main(String []arg)
    {
        int a=1;
        int b;
        while (true)
        {
            b=1;

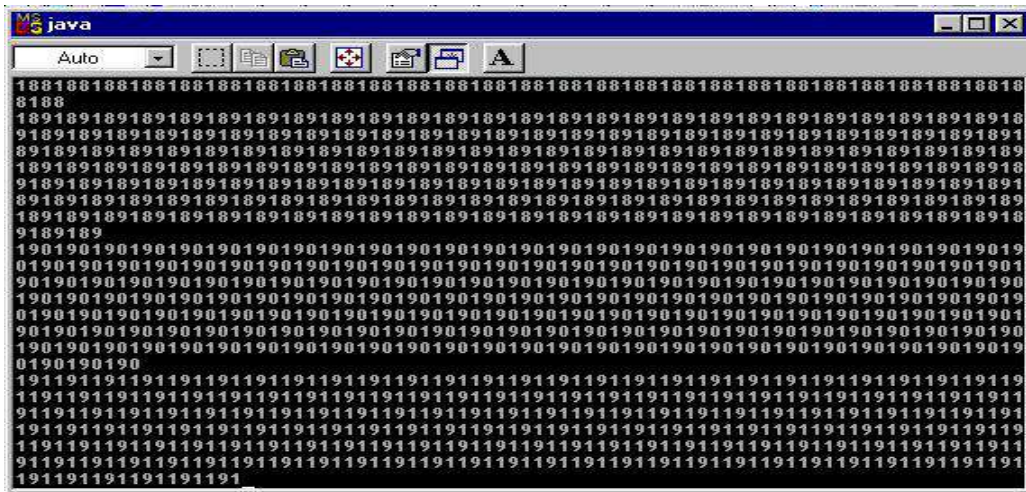
            while(b<=a)
            {

```

```

        System.out.print(a);
        ++b;
    }
    System.out.print("\n");
    ++a;
}
}
}

```



ctrl+c

:

do while

while

do-while

while

```
Do
{

}
while(      );

while
```

```
class DoWhileSt4
{
    public static void main(String []arg)
    {

        int i=0;
        do

        {
            System.out.println("HI");
            ++i;
        }
        while(i>7);

    }
}
```

while



```
MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>java DoWhileSt4
HI
C:\jdk1.3.0_02\bin>_
```

:

for statement

```
for(ex1;ex2;ex3)
{
}
```

ex1

ex2

ex3

```
ex1 ;
while(ex2)
{
ex3;
}
```

while

while

for

10,100,1000

for

```
class ForSt
{
    public static void main(String []arg)
    {
        int i;
        for(i=0;i<=10;++i)
        {
            System.out.println(i+"\t"+(i*10)+"\t"+(i*100)+"\t"+(i*1000));
        }
    }
}
```

for

i

i

i<=10

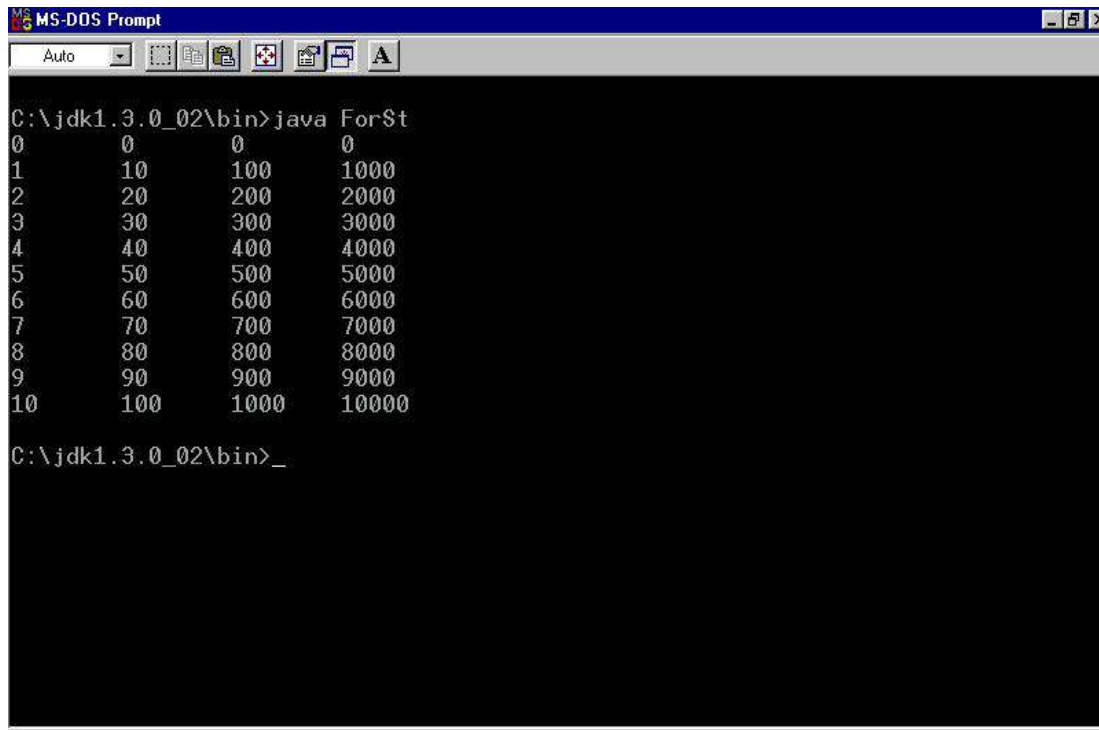
i

i

for

10

1000 100 10 i



```
MS-DOS Prompt
Auto
C:\jdk1.3.0_02\bin>java ForSt
0      0      0      0
1      10     100    1000
2      20     200    2000
3      30     300    3000
4      40     400    4000
5      50     500    5000
6      60     600    6000
7      70     700    7000
8      80     800    8000
9      90     900    9000
10     100    1000   10000
C:\jdk1.3.0_02\bin>_
```

0	0	0	0
1	10	100	1000
2	20	200	2000
3	30	300	3000
4	40	400	4000
5	50	500	5000
6	60	600	6000
7	70	700	7000
8	80	800	8000
9	90	900	9000
10	100	1000	10000