**\*\* Var Args \*\***

1. Var args also known as variable arguments.
2. The varargs allows the method to accept zero or multiple arguments.
3. Before varargs either we use overloaded method or take an array as the method parameter.

Important Points :-

* There can be only one variable argument in the method.
* Variable argument (varargs) must be the last argument.

**Syntax :-**

**class A**

**{**

void sum(int ...a)

{

System.out.println("Class A");

}

**}**

**class A**

**{**

void sum(int a)

{

System.out.println("Sum : " + a);

}

void sum(int a, int b)

{

System.out.println("Sum : " + (a+b) );

}

void sum(int a, int b, int c)

{

System.out.println("Sum : " + (a+b+c) );

}

**}**

**class Q01\_Var\_Args**

**{**

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum(10, 20, 30);

}

**}**

Output :-

Sum : 10

Sum : 30

Sum : 60

-------------------------------------------------------------------

class A

{

void sum(int a)

{

System.out.println("Sum : " + a);

}

void sum(int a, int b)

{

System.out.println("Sum : " + (a+b) );

}

void sum(int a, int b, int c)

{

System.out.println("Sum : " + (a+b+c) );

}

}

class Q02\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum(10, 20, 30);

a.sum(10, 20, 30, 40);

}

}

Output :- At a Compile time.

**no suitable method found for sum(int,int,int,int)**

**a.sum(10, 20, 30, 40);**

**^**

-------------------------------------------------------------------

class A

{

void sum(int ...a)

{

System.out.println("Class A");

}

}

class Q03\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum(10, 20, 30);

a.sum(10, 20, 30, 40);

}

}

/\*

Output :-

Class A

Class A

Class A

Class A

-------------------------------------------------------------------

\*/

class A

{

void sum(int ...a)

{

int count = 0;

for(int i = 0; i < a.length; i++)

{

count += a[i];

}

System.out.println("Sum : " + count);

}

}

class Q04\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum(10, 20, 30);

a.sum(10, 20, 30, 40);

}

}

/\*

Output :-

Sum : 10

Sum : 30

Sum : 60

Sum : 100

-------------------------------------------------------------------

\*/

class A

{

int count;

void sum(int ...a)

{

for(int i : a)

{

count += i;

}

System.out.println("Sum : " + count);

}

}

class Q05\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum(10, 20, 30);

a.sum(10, 20, 30, 40);

}

}

/\*

Output :-

Sum : 10

Sum : 30

Sum : 60

Sum : 100

-------------------------------------------------------------------

\*/

class A

{

int count;

void sum(int ...a, int b)

{

for(int i : a)

{

count += i;

}

System.out.println("Sum : " + count);

}

}

class Q06\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum(10, 20, 30);

a.sum(10, 20, 30, 40);

}

}

/\*

Output :-

**Q06\_Var\_Args.java:4: error: ')' expected**

**void sum(int ...a, int b)**

**^**

**Q06\_Var\_Args.java:4: error: ';' expected**

**void sum(int ...a, int b)**

^

-------------------------------------------------------------------

\*/

class A

{

void sum(int x, int ...a)

{

int count = 0;

for(int i : a)

{

count += i;

}

System.out.println("Sum : " + count);

}

}

class Q07\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum();

}

}

/\*

Output :-

**error: method sum in class A cannot be applied to given types;**

**a.sum();**

**^**

-------------------------------------------------------------------

\*/

class A

{

void sum(int ...a, int ...b)

{

System.out.println("Class A");

}

}

class Q08\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.sum(10);

a.sum(10, 20);

a.sum(10, 20, 30);

}

}

/\*

Output :-

**Q08\_Var\_Args.java:3: error: ')' expected**

**void sum(int ...a, int ...b)**

**^**

**Q08\_Var\_Args.java:3: error: <identifier> expected**

**void sum(int ...a, int ...b)**

**^**

**Q08\_Var\_Args.java:3: error: <identifier> expected**

**void sum(int ...a, int ...b)**

-------------------------------------------------------------------

\*/

class A

{

void sum(int []a)

{

int count = 0;

for(int i : a)

{

count += i;

}

System.out.println("Sum : " + count);

}

}

class Q09\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x[] = {10, 20, 30, 40};

int y[] = {1, 2, 3, 4};

a.sum(x);

a.sum(y);

}

}

/\*

Output :-

Sum : 100

Sum : 10

-------------------------------------------------------------------

\*/

* There can be only one variable argument in the method.
* Variable argument (varargs) must be the last argument.

class A

{

void sum(int []a)

{}

void sum(int ...a)

{}

}

class Q10\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x[] = {10, 20, 30, 40};

int y[] = {1, 2, 3, 4};

a.sum(x);

a.sum(y);

}

}

/\*

Output :-

**Q10\_Var\_Args.java:10: error: cannot declare both sum(int...) and sum(int[]) in A**

**void sum(int ...a)**

**^**

-------------------------------------------------------------------

class A

{

void show(int ...a)

{

System.out.println("Integer");

}

void show(String ...a)

{

System.out.println("String");

}

void show(boolean ...a)

{

System.out.println("Boolean");

}

}

class Q11\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.show(10, 20, 30);

a.show("A", "B", "C");

a.show(true, false, true, false);

}

}

/\*

Output :-

Integer

String

Boolean

^

-------------------------------------------------------------------

class A

{

void show(int ...a)

{

System.out.println("Integer");

}

}

class Q12\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.show();

}

}

Output :- Integer

class A

{

void show(String ...a)

{

System.out.println("String");

}

}

class Q13\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.show();

}

}

Output :- String

class A

{

void show(int ...a)

{

System.out.println("Integer");

}

void show(String ...a)

{

System.out.println("String");

}

void show(boolean ...a)

{

System.out.println("Boolean");

}

}

class Q14\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.show();

}

}

Output :-

**Q14\_Var\_Args.java:25: error: reference to show is ambiguous**

**a.show();**

**^**

class A

{

void show(int ...a)

{

System.out.println("var Args Lower");

}

void show(int a)

{

System.out.println("var Args Higher");

}

}

class Q15\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.show(10);

a.show(10, 20);

a.show(10, 20, 30);

}

}

Output :-

var Args Higher

var Args Lower

var Args Lower

We can pass Array and multiple args. in var args

class A

{

void show(int ...a)

{

System.out.println("var Args");

}

}

class Q16\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

a.show(10, 20, 30);

int x[] = {10, 20, 30};

a.show(x);

}

}

Output :-

var Args

var Args

We can't pass 2'D Array in This Type.

class A

{

void show(int ...a)

{

System.out.println("var Args");

}

}

class Q17\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x[][] = { {10, 20, 30},

{40, 50, 60} };

a.show(x);

}

}

Output :-

method show in class A cannot be applied to given types;

a.show(x);

^

We can pass 2'D Array in This Type.

class A

{

void show(int[] ...a)

{

System.out.println("var Args");

}

}

class Q18\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x[][] = { {10, 20, 30},

{40, 50, 60} };

a.show(x);

}

}

Output :-

var Args

class A

{

void show(int[] ...a)

{

int count = 0;

for(int i[] : a)

{

for(int j : i)

{

count += j;

}

}

System.out.println("Sum : " + count);

}

void show(int[][] ...a)

{

int count = 0;

for(int i[][] : a)

{

for(int j[] : i)

{

for(int k : j)

{

count += k;

}

}

}

System.out.println("Sum : " + count);

}

}

class Q19\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x1[][] = { {10, 20, 30}, {40, 50, 60} };

a.show(x1);

int x2[][][] = { { {10, 20}, {30, 40} },

{ {50, 60}, {70, 80} },

{ {90, 100}, {110, 120} }};

a.show(x2);

}

}

Output :-

Sum : 210

Sum : 780

-------------------------------------------------------------------

class A

{

void show(int ...a)

{

System.out.println("Vishal Soner");

}

}

class Q20\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x = 10, y = 20;

a.show(x, y);

}

}

Output :- Vishal Soner

class A

{

void show(int ...a)

{

System.out.println("Vishal Soner");

}

}

class Q21\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x[] = {10, 20};

int y[] = {30, 40};

a.show(x, y);

}

}

Output :-

**Q21\_Var\_Args.java:18: error: method show in class A cannot be applied to given types;**

**a.show(x, y);**

**^**

class A

{

void show(int[] ...a)

{

System.out.println("Vishal Soner");

}

}

class Q22\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int x[] = {10, 20};

int y[] = {30, 40};

a.show(x, y);

}

}

Output :- Vishal Soner

class A

{

void show(int ...a)

{

System.out.println("Only var args");

}

void show(int[] ...a)

{

System.out.println("Array + var args");

}

}

class Q23\_Var\_Args

{

public static void main(String args[])

{

A a = new A();

int a1 = 10, b1 = 20;

a.show(a1, b1);

int x[] = {10, 20};

int y[] = {30, 40};

a.show(x, y);

int x1[][] = { {10, 20}, {30, 40} };

a.show(x1);

}

}

Output :-

Only var args

Array + var args

Array + var args