Best, worst and average cases are all equal in this question because the input does not change anything in case of basic operations.

To find the formula for a we need to know how many times the line that changes a gets executed. Since this line gets executed once in each iteration, this formula will be also equal to the number of executions. In other words, this line is the basic operation.

The innermost loop gets executed i times for each j value and the middle loop gets executed i^2 times for each i value. So, totally they get executed i^3times for each i value. This can be shown practically with this diagram.

$i = 1$

$j = 1$

$k = 1$

(line below k is executed 1 time (1^3), $a = 1$)

$i = 2$

$j = 1$

$k \in (1, 2)$

$j = 2$

$k \in (1, 2)$

$j = 3$

$k \in (1, 2)$

$j = 4$

$k \in (1, 2)$

(line below k is executed 8 times (2^3), $a = 1 + 8 = 9$)

$i = 3$

$j \in (1, 2, 3, 4, 5)$

$k \in (1, 2, 3)$

(line below k is executed 27 times (3^3), $a = 1 + 8 + 27 = 36$)

It goes like this until $i = n$

So we can conclude that the formula for a is

$$a = \sum_{i=1}^{n} i^3 = (\frac{n*(n+1)}{2})^2$$

Since the formula for a is equal to the number of iterations we can use this formula to calculate the complexity.

Using the integration technique and assuming $f(n) = \sum_{i=1}^{n} i^3$

$$\int_0^n x^3 dx \le f(n) \le \int_1^{n+1} x^3 dx$$

$$(x^4/4)\Big|_0^n \le f(n) \le (x^4/4)\Big|_1^{n+1}$$

$$(n^4/4) \le f(n) \le ((n + 1)^4/4 - 1/4)$$

So, $f(n) \in O(n^4)$