**K=10:**

iteration\_number: 1

1<----------------------->5,7,43,62,67,87,

2<----------------------->2,10,13,19,24,29,34,39,51,53,57,58,61,63,65,73,78,85,89,

3<----------------------->6,12,20,27,41,54,55,75,77,88,93,97,

4<----------------------->1,8,17,94,98,99,

5<----------------------->32,38,52,59,

6<----------------------->9,15,23,30,35,44,45,46,47,49,66,76,81,86,90,

7<----------------------->28,36,37,48,68,71,72,82,83,92,95,96,

8<----------------------->3,4,11,14,16,18,22,25,26,33,40,42,50,56,60,64,69,70,80,84,91,100,

9<----------------------->21,74,

10<----------------------->31,79,

iteration\_number: 2

1<----------------------->5,7,43,62,67,87,

2<----------------------->2,10,19,24,27,29,34,39,51,53,57,58,61,63,65,73,78,85,88,89,

3<----------------------->6,12,13,20,41,54,55,75,77,93,97,

4<----------------------->1,8,17,94,98,99,

5<----------------------->32,38,52,56,59,

6<----------------------->9,15,23,30,35,44,45,46,47,49,66,76,81,86,90,

7<----------------------->28,36,37,48,68,71,72,82,83,92,95,96,

8<----------------------->3,4,11,14,16,22,25,26,33,40,42,50,60,64,69,70,80,84,91,100,

9<----------------------->18,21,74,

10<----------------------->31,79,

iteration\_number: 3

1<----------------------->5,7,43,62,67,87,

2<----------------------->2,10,19,24,27,29,34,39,51,53,57,58,63,65,73,78,85,88,89,

3<----------------------->6,12,13,20,41,54,55,75,77,93,97,

4<----------------------->1,8,17,61,94,98,99,

5<----------------------->32,38,52,56,59,64,

6<----------------------->9,15,23,30,35,44,45,46,47,49,66,76,81,86,90,

7<----------------------->28,36,37,48,68,71,72,82,83,92,95,96,

8<----------------------->3,4,11,14,16,22,25,26,33,40,42,50,60,70,80,84,91,100,

9<----------------------->18,21,69,74,

10<----------------------->31,79,

iteration\_number: 4

1<----------------------->5,7,43,62,67,87,

2<----------------------->2,10,19,24,27,29,34,39,51,53,54,57,58,63,65,73,78,85,88,89,

3<----------------------->6,12,13,20,41,55,75,77,93,97,

4<----------------------->1,8,17,61,94,98,99,

5<----------------------->32,38,52,56,59,60,64,

6<----------------------->9,15,23,30,35,44,45,46,47,49,66,76,81,86,90,

7<----------------------->28,36,37,48,68,71,72,82,83,92,95,96,

8<----------------------->3,4,11,14,16,22,25,26,33,40,42,50,70,80,84,91,100,

9<----------------------->18,21,69,74,

10<----------------------->31,79,

iteration\_number: 5

1<----------------------->5,7,43,62,67,87,

2<----------------------->2,10,19,24,27,29,34,39,51,53,54,55,57,58,63,65,73,78,85,88,89,

3<----------------------->6,12,13,20,41,75,77,93,97,

4<----------------------->1,8,17,61,94,98,99,

5<----------------------->32,38,52,56,59,60,64,

6<----------------------->9,15,23,30,35,44,45,46,47,49,66,76,81,86,90,

7<----------------------->28,36,37,48,68,71,72,82,83,92,95,96,

8<----------------------->3,4,11,14,16,22,25,26,33,40,42,50,70,80,84,91,100,

9<----------------------->18,21,69,74,

10<----------------------->31,79,

iteration\_number: 6

1<----------------------->5,7,43,62,67,87,

2<----------------------->2,10,19,24,27,29,34,39,51,53,54,55,57,58,63,65,73,78,85,88,89,

3<----------------------->6,12,13,20,41,75,77,93,97,

4<----------------------->1,8,17,61,94,98,99,

5<----------------------->32,38,52,56,59,60,64,

6<----------------------->9,15,23,30,35,44,45,46,47,49,66,76,81,86,90,

7<----------------------->28,36,37,48,68,71,72,82,83,92,95,96,

8<----------------------->3,4,11,14,16,22,25,26,33,40,42,50,70,80,84,91,100,

9<----------------------->18,21,69,74,

10<----------------------->31,79,

the Sum Of SQUARES ERROR is:58.83105664185758

**K=12:**

iteration\_number: 1

1<--------------------->21,

2<--------------------->6,12,13,24,29,34,38,63,65,75,93,97,

3<--------------------->9,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->4,11,22,28,32,36,37,48,52,59,60,64,68,70,71,72,82,83,92,95,96,

6<--------------------->3,14,16,18,25,26,33,40,42,50,56,69,74,80,84,91,100,

7<--------------------->5,7,15,43,62,67,87,

8<---------------------><This Cluster is Empty>

9<--------------------->2,8,10,17,39,51,53,58,61,73,85,89,94,98,

10<--------------------->19,20,27,41,54,55,77,78,88,

11<--------------------->1,57,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 2

1<--------------------->21,74,

2<--------------------->6,12,13,24,29,34,38,59,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->4,11,22,28,32,36,37,48,52,60,68,70,71,72,82,83,92,95,96,

6<--------------------->3,14,16,18,25,26,33,40,42,50,56,64,69,80,84,91,100,

7<--------------------->5,7,43,62,67,87,

8<---------------------><This Cluster is Empty>

9<--------------------->2,8,10,17,39,51,53,57,58,61,73,85,89,94,98,

10<--------------------->19,20,27,41,54,55,77,78,88,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 3

1<--------------------->18,21,74,

2<--------------------->6,12,13,24,29,34,38,59,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,32,36,37,48,52,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,14,16,25,26,33,40,42,50,56,60,64,69,80,84,91,100,

7<--------------------->5,7,43,62,67,87,

8<---------------------><This Cluster is Empty>

9<--------------------->2,8,10,17,39,51,53,57,58,61,73,89,94,98,

10<--------------------->19,20,27,41,54,55,77,78,85,88,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 4

1<--------------------->18,21,69,74,

2<--------------------->6,12,13,24,29,34,38,59,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,32,36,37,48,52,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,14,16,25,26,33,40,42,50,56,60,64,80,84,91,100,

7<--------------------->5,7,43,62,67,87,

8<---------------------><This Cluster is Empty>

9<--------------------->2,8,10,17,39,51,53,57,58,61,89,94,98,

10<--------------------->19,20,27,41,54,55,73,77,78,85,88,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 5

1<--------------------->18,21,69,74,91,

2<--------------------->6,12,13,24,29,34,38,59,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,32,36,37,48,52,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,14,16,25,26,33,40,42,50,56,60,64,80,84,100,

7<--------------------->5,7,43,62,67,87,

8<---------------------><This Cluster is Empty>

9<--------------------->2,8,17,39,51,53,57,58,61,94,98,

10<--------------------->10,19,20,27,41,54,55,73,77,78,85,88,89,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 6

1<--------------------->18,33,69,74,91,

2<--------------------->6,12,13,24,34,38,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,32,36,37,48,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,14,16,25,26,40,42,50,52,56,59,60,64,80,84,100,

7<--------------------->5,7,43,62,67,87,

8<--------------------->21,

9<--------------------->2,8,17,29,39,51,53,57,61,94,98,

10<--------------------->10,19,20,27,41,54,55,58,73,77,78,85,88,89,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 7

1<--------------------->14,18,33,40,50,69,74,80,84,91,

2<--------------------->6,12,13,24,29,34,38,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,32,36,37,48,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,16,25,26,42,52,56,59,60,64,100,

7<--------------------->5,7,43,62,67,87,

8<--------------------->21,

9<--------------------->2,8,17,39,51,53,57,61,94,98,

10<--------------------->10,19,20,27,41,54,55,58,73,77,78,85,88,89,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 8

1<--------------------->14,18,26,33,40,42,50,69,74,80,84,91,

2<--------------------->6,12,13,24,29,34,38,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,16,25,32,52,56,59,60,64,100,

7<--------------------->5,7,43,62,67,87,

8<--------------------->21,

9<--------------------->2,8,17,51,53,57,61,94,98,

10<--------------------->10,19,20,27,39,41,54,55,58,73,77,78,85,88,89,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 9

1<--------------------->14,18,25,26,33,40,42,50,69,80,84,91,100,

2<--------------------->6,12,13,24,29,34,38,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,16,32,52,56,59,60,64,

7<--------------------->5,7,43,62,67,87,

8<--------------------->21,74,

9<--------------------->2,8,17,51,53,57,61,94,98,

10<--------------------->10,19,20,27,39,41,54,55,58,73,77,78,85,88,89,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 10

1<--------------------->14,25,26,33,40,42,50,69,80,84,91,100,

2<--------------------->6,12,13,24,29,34,38,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,16,32,52,56,59,60,64,

7<--------------------->5,7,43,62,67,87,

8<--------------------->18,21,74,

9<--------------------->2,8,17,51,53,57,61,94,98,

10<--------------------->10,19,20,27,39,41,54,55,58,73,77,78,85,88,89,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

iteration\_number: 11

1<--------------------->14,25,26,33,40,42,50,69,80,84,91,100,

2<--------------------->6,12,13,24,29,34,38,63,65,75,93,97,

3<--------------------->9,15,23,30,46,49,66,76,81,86,90,

4<--------------------->31,35,44,45,47,

5<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

6<--------------------->3,4,16,32,52,56,59,60,64,

7<--------------------->5,7,43,62,67,87,

8<--------------------->18,21,74,

9<--------------------->2,8,17,51,53,57,61,94,98,

10<--------------------->10,19,20,27,39,41,54,55,58,73,77,78,85,88,89,

11<--------------------->1,79,99,

12<---------------------><This Cluster is Empty>

the Sum Of SQUARES ERROR is:56.98541962044423

**K=7:**

iteration\_number: 1

1<--------------------->2,6,10,12,13,19,20,24,27,29,34,38,39,41,51,53,54,55,58,63,73,75,77,78,85,88,89,93,97,

2<--------------------->1,8,31,57,61,65,79,98,99,

3<--------------------->17,94,

4<--------------------->5,7,9,15,23,30,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->21,74,

6<--------------------->3,4,11,14,16,18,22,25,26,32,33,40,42,48,50,52,56,59,60,64,69,70,80,83,84,91,92,100,

7<--------------------->28,36,37,68,71,72,82,95,96,

iteration\_number: 2

1<--------------------->2,6,12,13,19,20,24,27,29,34,38,39,41,51,53,54,55,58,63,73,75,77,78,85,88,89,93,97,

2<--------------------->1,57,61,65,79,98,99,

3<--------------------->8,10,17,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->18,21,69,74,

6<--------------------->3,4,11,14,16,22,25,26,32,33,40,42,50,52,56,59,60,64,70,80,84,91,100,

7<--------------------->28,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 3

1<--------------------->6,12,13,19,20,24,27,29,34,38,39,41,51,54,55,58,63,73,75,77,78,85,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,69,74,80,91,

6<--------------------->3,4,11,16,22,25,26,32,40,42,50,52,56,59,60,64,70,84,100,

7<--------------------->28,33,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 4

1<--------------------->6,12,13,19,20,24,27,29,34,38,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,33,50,69,74,80,91,

6<--------------------->3,4,11,16,22,25,26,32,40,42,52,56,59,60,64,70,84,100,

7<--------------------->28,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 5

1<--------------------->6,12,13,19,20,24,27,29,34,38,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,33,40,50,69,74,80,84,91,

6<--------------------->3,4,11,16,22,25,26,32,42,52,56,59,60,64,70,100,

7<--------------------->28,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 6

1<--------------------->6,12,13,19,20,24,27,29,34,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,33,40,42,50,69,74,80,84,91,

6<--------------------->3,4,11,16,22,25,26,32,38,52,56,59,60,64,70,100,

7<--------------------->28,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 7

1<--------------------->6,12,13,19,20,24,27,29,34,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,26,33,40,42,50,69,74,80,84,91,100,

6<--------------------->3,4,11,16,25,32,38,52,56,59,60,64,70,

7<--------------------->22,28,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 8

1<--------------------->6,12,13,19,20,24,27,29,34,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,25,26,33,40,42,50,69,74,80,84,91,100,

6<--------------------->3,4,11,16,32,38,52,56,59,60,64,70,

7<--------------------->22,28,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 9

1<--------------------->6,12,13,19,20,24,27,29,34,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,25,26,33,40,42,50,69,74,80,84,91,100,

6<--------------------->3,4,16,32,38,52,56,59,60,64,70,

7<--------------------->11,22,28,36,37,48,68,71,72,82,83,92,95,96,

iteration\_number: 10

1<--------------------->6,12,13,19,20,24,27,29,34,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,25,26,33,40,42,50,69,74,80,84,91,100,

6<--------------------->3,4,16,32,38,52,56,59,60,64,

7<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

iteration\_number: 11

1<--------------------->6,12,13,19,20,24,27,29,34,39,41,51,54,55,58,63,75,77,78,88,93,97,

2<--------------------->1,2,8,53,57,61,65,79,98,99,

3<--------------------->10,17,73,85,89,94,

4<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,81,86,87,90,

5<--------------------->14,18,21,25,26,33,40,42,50,69,74,80,84,91,100,

6<--------------------->3,4,16,32,38,52,56,59,60,64,

7<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

the Sum Of SQUARES ERROR is:78.82261155113652

**k=5:**

iteration\_number: 1

1<--------------------->3,4,11,14,16,18,22,25,26,28,32,33,36,37,38,40,42,48,50,52,56,59,60,64,68,69,70,71,72,80,82,83,84,91,92,95,96,100,

2<--------------------->21,74,

3<---------------------><This Cluster is Empty>

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 2

1<--------------------->3,4,11,14,16,22,25,26,28,32,33,36,37,40,42,48,50,52,56,59,60,64,68,70,71,72,80,83,84,91,92,95,96,100,

2<--------------------->18,21,69,74,82,

3<---------------------><This Cluster is Empty>

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,38,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 3

1<--------------------->3,4,11,14,16,22,25,26,28,32,33,36,37,40,42,50,52,56,59,60,64,68,70,71,72,83,84,92,95,96,100,

2<--------------------->18,48,69,74,80,82,91,

3<--------------------->21,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,38,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 4

1<--------------------->3,4,11,16,22,25,26,28,32,37,40,42,52,56,59,60,64,68,70,71,72,84,92,100,

2<--------------------->14,18,33,36,48,50,69,74,80,82,83,91,95,96,

3<--------------------->21,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,38,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 5

1<--------------------->3,4,11,16,22,25,26,32,38,42,52,56,59,60,64,68,70,71,72,92,100,

2<--------------------->14,18,28,33,36,37,40,48,50,74,82,83,84,91,95,96,

3<--------------------->21,69,80,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 6

1<--------------------->3,4,11,22,25,26,32,38,42,52,56,59,60,64,70,71,92,100,

2<--------------------->28,33,36,37,40,48,50,68,72,82,83,84,91,95,96,

3<--------------------->14,16,18,21,69,74,80,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 7

1<--------------------->3,4,11,25,26,32,38,52,56,59,60,64,70,

2<--------------------->22,28,33,36,37,48,68,71,72,82,83,84,91,92,95,96,

3<--------------------->14,16,18,21,40,42,50,69,74,80,100,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 8

1<--------------------->3,4,11,32,38,52,56,59,60,64,70,

2<--------------------->22,28,33,36,37,48,68,71,72,82,83,92,95,96,

3<--------------------->14,16,18,21,25,26,40,42,50,69,74,80,84,91,100,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 9

1<--------------------->3,4,32,38,52,56,59,60,64,70,

2<--------------------->11,22,28,36,37,48,68,71,72,82,83,92,95,96,

3<--------------------->14,16,18,21,25,26,33,40,42,50,69,74,80,84,91,100,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 10

1<--------------------->3,4,32,38,52,56,59,60,64,

2<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

3<--------------------->14,16,18,21,25,26,33,40,42,50,69,74,80,84,91,100,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

iteration\_number: 11

1<--------------------->3,4,32,38,52,56,59,60,64,

2<--------------------->11,22,28,36,37,48,68,70,71,72,82,83,92,95,96,

3<--------------------->14,16,18,21,25,26,33,40,42,50,69,74,80,84,91,100,

4<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

5<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

the Sum Of SQUARES ERROR is:83.45815664971856

**k=4:**

iteration\_number: 1

1<--------------------->3,4,11,14,16,22,25,26,32,38,40,42,50,52,56,59,60,64,69,70,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->18,21,28,33,36,37,48,68,71,72,74,82,83,84,91,92,95,96,

iteration\_number: 2

1<--------------------->3,4,11,14,16,25,26,32,38,40,42,50,52,56,59,60,64,69,70,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->18,21,22,28,33,36,37,48,68,71,72,74,82,83,84,91,92,95,96,

iteration\_number: 3

1<--------------------->3,4,11,14,16,25,26,32,38,42,50,52,56,59,60,64,69,70,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->18,21,22,28,33,36,37,40,48,68,71,72,74,82,83,84,91,92,95,96,

iteration\_number: 4

1<--------------------->3,4,11,16,25,26,32,38,42,50,52,56,59,60,64,69,70,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->14,18,21,22,28,33,36,37,40,48,68,71,72,74,82,83,84,91,92,95,96,

iteration\_number: 5

1<--------------------->3,4,11,16,25,26,32,38,42,52,56,59,60,64,69,70,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->14,18,21,22,28,33,36,37,40,48,50,68,71,72,74,82,83,84,91,92,95,96,

iteration\_number: 6

1<--------------------->3,4,16,25,26,32,38,42,52,56,59,60,64,69,70,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->11,14,18,21,22,28,33,36,37,40,48,50,68,71,72,74,82,83,84,91,92,95,96,

iteration\_number: 7

1<--------------------->3,4,16,25,26,32,38,42,52,56,59,60,64,69,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->11,14,18,21,22,28,33,36,37,40,48,50,68,70,71,72,74,82,83,84,91,92,95,96,

iteration\_number: 8

1<--------------------->3,4,16,25,26,32,38,42,52,56,59,60,64,69,80,100,

2<--------------------->1,2,6,8,10,12,13,17,19,20,24,27,29,34,39,41,51,53,54,55,57,58,61,63,65,73,75,77,78,85,88,89,93,94,97,98,99,

3<--------------------->5,7,9,15,23,30,31,35,43,44,45,46,47,49,62,66,67,76,79,81,86,87,90,

4<--------------------->11,14,18,21,22,28,33,36,37,40,48,50,68,70,71,72,74,82,83,84,91,92,95,96,

the Sum Of SQUARES ERROR is:89.01401153725948