```
Assignment 2:
-----------------------------------------------

Pattern 1:
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

Java code:

class Pattern1{
    public static void main(String[] args){
        for(int i=1; i<=5; i++){
            for(int j=1; j<=i; j++){
                System.out.print(j+" ");
            }
            System.out.println();
        }
    }
}
-----------------------------------------------

Pattern 2:
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5

Java code:

class Pattern2{
    public static void main(String[] args){
        for(int i=1; i<=5; i++){
            char c='A';
            for(int j=1; j<=i; j++){
                System.out.print(c+" ");
                c++;
            }
            System.out.println();
        }
    }
}
-----------------------------------------------

Pattern 2:
*
* *
* * *
* * * *
* * * * *

Java code:

class Pattern3{
    public static void main(String[] args){
        for(int i=1; i<=5; i++){
            for(int j=1; j<=i; j++){
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
-----------------------------------------------

Pattern 4:
```

```
70    1
71    2 2
72    3 3 3
73    4 4 4 4
74    5 5 5 5 5
75
76    Java code:
77
78    class Pattern4{
79        public static void main(String[] args){
80            for(int i=1; i<=5; i++){
81                for(int j=1; j<=i; j++){
82                    System.out.print(i+" ");
83                }
84                System.out.println();
85            }
86        }
87    }
88    ------------------------------------------------
89
90    Pattern 5:
91    A
92    B B
93    C C C
94    D D D D
95    E E E E E
96
97    Java code:
98
99    class Pattern5{
100       public static void main(String[] args){
101           char c='A';
102           for(int i=1; i<=5; i++){
103               for(int j=1; j<=i; j++){
104                   System.out.print(c+" ");
105               }
106               c++;
107               System.out.println();
108           }
109       }
110   }
111   ------------------------------------------------
112
113   Pattern 6:
114           *
115         * *
116       * * *
117     * * * *
118   * * * * *
119
120   Java code:
121
122   class Pattern6{
123       public static void main(String[] args){
124           for(int i=0; i<5; i++){
125               for(int k=2*(4-i); k>=0; k--){
126                   System.out.print(" ");
127               }
128               for(int j=0; j<=i; j++){
129                   System.out.print("* ");
130               }
131               System.out.println();
132           }
133       }
134   }
135   ------------------------------------------------
136
137   Pattern 7:
138           1
```

```
139        1 2
140       1 2 3
141      1 2 3 4
142     1 2 3 4 5
143
144    Java code:
145
146    class Pattern7{
147        public static void main(String[] args){
148            for(int i=1; i<=5; i++){
149                for(int k=i; k<5; k++){
150                    System.out.print(" ");
151                }
152                for(int j=1; j<=i; j++){
153                    System.out.print(j+" ");
154                }
155                System.out.println();
156            }
157        }
158    }
159    ------------------------------------------------
160
161    Pattern 8:
162         5
163        4 5
164       3 4 5
165      2 3 4 5
166     1 2 3 4 5
167
168    Java code:
169
170    class Pattern8{
171        public static void main(String[] args){
172            for(int i=5; i>=1; i--){
173                int c=i;
174                for(int k=1; k<i; k++){
175                    System.out.print(" ");
176                }
177                for(int j=5; j>=i; j--){
178                    System.out.print(c+" ");
179                    c++;
180                }
181                System.out.println();
182            }
183        }
184    }
185    ------------------------------------------------
186
187    Pattern 9:
188         A
189        A B
190       A B C
191      A B C D
192     A B C D E
193
194    Java code:
195
196    class Pattern9{
197        public static void main(String[] args){
198            for(int i=5; i>=1; i--){
199                char c='A';
200                for(int k=1; k<i; k++){
201                    System.out.print(" ");
202                }
203                for(int j=5; j>=i; j--){
204                    System.out.print(c+" ");
205                    c++;
206                }
207                System.out.println();
```

```
208            }
209         }
210    }
211    ------------------------------------------------
212
213    Pattern 10:
214          E
215         D E
216        C D E
217       B C D E
218      A B C D E
219
220    Java code:
221
222    class Pattern10{
223        public static void main(String[] args){
224            for(int i=5; i>=1; i--){
225                int c=65;
226                for(int k=1; k<i; k++){
227                    System.out.print(" ");
228                }
229                for(int j=i-1; j<5; j++){
230                    System.out.print((char)(c+j)+" ");
231                }
232                System.out.println();
233            }
234        }
235    }
236    ------------------------------------------------
237
238    Pattern 11:
239          *
240        ***
241       *****
242      *******
243    *********
244
245    Java code:
246
247    class Pattern11{
248        public static void main(String[] args){
249            for(int i=5; i>=1; i--){
250                for(int k=1; k<i; k++){
251                    System.out.print(" ");
252                }
253                for(int j=5; j>=i; j--){
254                    System.out.print("*");
255                }
256                for(int j=5; j>i; j--){
257                    System.out.print("*");
258                }
259                System.out.println();
260            }
261        }
262    }
263    ------------------------------------------------
264
265    Pattern 12:
266          1
267        2 2
268       3 3 3
269      4 4 4 4
270    5 5 5 5 5
271
272    Java code:
273
274    class Pattern12{
275        public static void main(String[] args){
276            for(int i=1; i<=5; i++){
```

```
277            for(int k=5; k>i; k--){
278                System.out.print(" ");
279            }
280            for(int j=1; j<=i; j++){
281                System.out.print(i+" ");
282            }
283            System.out.println();
284        }
285    }
286 }
287 -------------------------------------------------
288
289 Pattern 13:
290     A
291    B B
292   C C C
293  D D D D
294 E E E E E
295
296 Java code:
297
298 class Pattern13{
299     public static void main(String[] args){
300         char c='A';
301         for(int i=1; i<=5; i++){
302             for(int k=5; k>i; k--){
303                 System.out.print(" ");
304             }
305             for(int j=1; j<=i; j++){
306                 System.out.print(c+" ");
307             }
308             c++;
309             System.out.println();
310         }
311     }
312 }
313 -------------------------------------------------
314
315 Pattern 14:
316 1 2 3 4 5
317 1 2 3 4
318 1 2 3
319 1 2
320 1
321
322 Java code:
323
324 class Pattern14{
325     public static void main(String[] args){
326         for(int i=5; i>=1; i--){
327             for(int j=1; j<=i; j++){
328                 System.out.print(j+" ");
329             }
330             System.out.println();
331         }
332     }
333 }
334 -------------------------------------------------
335
336 Pattern 15:
337 5 4 3 2 1
338 5 4 3 2
339 5 4 3
340 5 4
341 5
342
343 Java code:
344
345 class Pattern15{
```

```
346         public static void main(String[] args){
347             for(int i=5; i>=1; i--){
348                 int c=5;
349                 for(int j=1; j<=i; j++){
350                     System.out.print(c+" ");
351                     c--;
352                 }
353                 System.out.println();
354             }
355         }
356     }
357     ------------------------------------------------

358
359     Pattern 16:
360     5
361     5 4
362     5 4 3
363     5 4 3 2
364     5 4 3 2 1

365
366     Java code:

367
368     class Pattern16{
369         public static void main(String[] args){
370             for(int i=1; i<=5; i++){
371                 int c=5;
372                 for(int j=1; j<=i; j++){
373                     System.out.print(c+" ");
374                     c--;
375                 }
376                 System.out.println();
377             }
378         }
379     }
380     ------------------------------------------------

381
382     Pattern 17:
383     1
384     2 3
385     4 5 6
386     7 8 9 10
387     11 12 13 14 15

388
389     Java code:

390
391     class Pattern17{
392         public static void main(String[] args){
393             int c=1;
394             for(int i=1; i<=5; i++){
395                 for(int j=1; j<=i; j++){
396                     System.out.print(c+" ");
397                     c++;
398                 }
399                 System.out.println();
400             }
401         }
402     }
403     ------------------------------------------------

404
405     Pattern 18:
406     A B C D E
407     A B C D
408     A B C
409     A B
410     A

411
412     Java code:

413
414     class Pattern18{
```

```
415     public static void main(String[] args){
416         for(int i=5; i>=1; i--){
417             char c='A';
418             for(int j=1; j<=i; j++){
419                 System.out.print(c+" ");
420                 c++;
421             }
422             System.out.println();
423         }
424     }
425 }
426 ------------------------------------------------
427 ------------------------------------------------
428 ------------------------------------------------
429
430 Pattern 1:
431 *
432 **
433 ***
434 ****
435 *****
436
437 Java code:
438
439 class Pattern1{
440     public static void main(String[] args){
441         for(int i=1; i<=5; i++){
442             for(int j=1; j<=i; j++){
443                 System.out.print("*");
444             }
445             System.out.println();
446         }
447     }
448 }
449 ------------------------------------------------
450
451 Pattern 2:
452      *
453     **
454    ***
455   ****
456 *****
457
458 Java code:
459
460 class Pattern2{
461     public static void main(String[] args){
462         for(int i=5; i>=1; i--){
463             for(int k=1; k<i; k++){
464                 System.out.print(" ");
465             }
466             for(int j=5; j>=i; j--){
467                 System.out.print("*");
468             }
469             System.out.println();
470         }
471     }
472 }
473 ------------------------------------------------
474
475 Pattern 3:
476 *****
477 ****
478 ***
479 **
480 *
481
482 Java code:
483
```

```
class Pattern3{
    public static void main(String[] args){
        for(int i=5; i>=1; i--){
            for(int j=1; j<=i; j++){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```
------------------------------------------------

Pattern 4:
*****
 ****
  ***
   **
    *

Java code:

```
class Pattern4{
    public static void main(String[] args){
        for(int i=5; i>=1; i--){
            for(int k=5; k>i; k--){
                System.out.print(" ");
            }
            for(int j=1; j<=i; j++){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```
------------------------------------------------

Pattern 5:
    *
   ***
  *****
 *******
*********

Java code:

```
class Pattern5{
    public static void main(String[] args){
        for(int i=5; i>=1; i--){
            for(int k=1; k<i; k++){
                System.out.print(" ");
            }
            for(int j=5; j>=i; j--){
                System.out.print("*");
            }
            for(int j=5; j>i; j--){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```
------------------------------------------------

Pattern 6:
*********
 *******
  *****
   ***
    *
```

```
553
554    Java code:
555
556    class Pattern6{
557        public static void main(String[] args){
558            for(int i=5; i>=1; i--){
559                for(int k=5; k>i; k--){
560                    System.out.print(" ");
561                }
562                for(int j=1; j<=i; j++){
563                    System.out.print("*");
564                }
565                for(int j=1; j<i; j++){
566                    System.out.print("*");
567                }
568                System.out.println();
569            }
570        }
571    }
572    --------------------------------------------------
573
574    Pattern 7:
575        *
576       ***
577      *****
578     *******
579    *********
580     *******
581      *****
582       ***
583        *
584
585    Java code:
586
587    class Pattern7{
588        public static void main(String[] args){
589            for(int i=1; i<=4; i++){
590                for(int k=4; k>=i; k--){
591                    System.out.print(" ");
592                }
593                for(int j=1; j<=i; j++){
594                    System.out.print("*");
595                }
596                for(int j=1; j<i; j++){
597                    System.out.print("*");
598                }
599                System.out.println();
600            }
601            for(int i=5; i>=1; i--){
602                for(int k=5; k>i; k--){
603                    System.out.print(" ");
604                }
605                for(int j=1; j<=i; j++){
606                    System.out.print("*");
607                }
608                for(int j=1; j<i; j++){
609                    System.out.print("*");
610                }
611                System.out.println();
612            }
613        }
614    }
615    --------------------------------------------------
616
617    Pattern 8:
618    *
619    **
620    ***
621    ****
```

```
622    *****
623    ****
624    ***
625    **
626    *
627
628    Jsva code:
629
630    class Pattern8{
631        public static void main(String[] args){
632            for(int i=1; i<=5; i++){
633                for(int j=1; j<=i; j++){
634                    System.out.print("*");
635                }
636                System.out.println();
637            }
638            for(int i=4; i>=1; i--){
639                for(int j=1; j<=i; j++){
640                    System.out.print("*");
641                }
642                System.out.println();
643            }
644
645        }
646    }
647    ------------------------------------------------
648
649    Pattern 9:
650        *
651       **
652      ***
653     ****
654    *****
655     ****
656      ***
657       **
658        *
659
660    Java code:
661
662    class Pattern9{
663        public static void main(String[] args){
664            for(int i=5; i>=1; i--){
665                for(int k=1; k<i; k++){
666                    System.out.print(" ");
667                }
668                for(int j=5; j>=i; j--){
669                    System.out.print("*");
670                }
671                System.out.println();
672            }
673            for(int i=4; i>=1; i--){
674                for(int k=4; k>=i; k--){
675                    System.out.print(" ");
676                }
677                for(int j=1; j<=i; j++){
678                    System.out.print("*");
679                }
680                System.out.println();
681            }
682
683        }
684    }
685    ------------------------------------------------
686
687    Pattern 10:
688        *****
689       *****
690      *****
```

```
  *****
  *****

Java code:

class Pattern10{
    public static void main(String[] args){
        for(int i=1; i<=5; i++){
            for(int k=5; k>i; k--){
                System.out.print(" ");
            }
            for(int j=5; j>=1; j--){
                System.out.print("*");
            }
            System.out.println();
        }

    }
}
------------------------------------------------

Pattern 11:
*****
 *****
  *****
   *****
    *****

Java code:

class Pattern11{
    public static void main(String[] args){
        for(int i=1; i<=5; i++){
            for(int k=1; k<i; k++){
                System.out.print(" ");
            }
            for(int j=5; j>=1; j--){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
------------------------------------------------

Pattern 12:
*****
****
***
**
*
**
***
****
*****

Java code:

class Pattern12{
    public static void main(String[] args){
        for(int i=5; i>=1; i--){
            for(int j=1; j<=i; j++){
                System.out.print("*");
            }
            System.out.println();
        }
        for(int i=2; i<=5; i++){
            for(int j=1; j<=i; j++){
                System.out.print("*");
```

```
760                }
761                System.out.println();
762            }
763        }
764    }
765    -----------------------------------------------
766
767    Pattern 13:
768    *****
769     ****
770      ***
771       **
772        *
773       **
774      ***
775     ****
776    *****
777
778    Java code:
779
780    class Pattern13{
781        public static void main(String[] args){
782            for(int i=1; i<=5; i++){
783                for(int k=1; k<i; k++){
784                    System.out.print(" ");
785                }
786                for(int j=5; j>=i; j--){
787                    System.out.print("*");
788                }
789                System.out.println();
790            }
791            for(int i=2; i<=5; i++){
792                for(int k=4; k>=i; k--){
793                    System.out.print(" ");
794                }
795                for(int j=0; j<=i-1; j++){
796                    System.out.print("*");
797                }
798                System.out.println();
799            }
800        }
801    }
802    -----------------------------------------------
803
804    Pattern 14:
805    * * * * *
806     * * * *
807      * * *
808       * *
809        *
810       * *
811      * * *
812     * * * *
813    * * * * *
814
815    Java code:
816
817    class Pattern14{
818        public static void main(String[] args){
819            for(int i=1; i<=5; i++){
820                for(int k=1; k<i; k++){
821                    System.out.print(" ");
822                }
823                for(int j=5; j>=i; j--){
824                    System.out.print("* ");
825                }
826                System.out.println();
827            }
828            for(int i=2; i<=5; i++){
```

```
829             for(int k=4; k>=i; k--){
830                 System.out.print(" ");
831             }
832             for(int j=0; j<=i-1; j++){
833                 System.out.print("* ");
834             }
835             System.out.println();
836         }
837     }
838 }
```
839 ------------------------------------------------
840
841 Pattern 15:
842 *
843 **
844 * *
845 *   *
846 *****
847
848 Java code:
849
```
850 class Pattern15{
851     public static void main(String[] args){
852         for(int i=1; i<=5; i++){
853             for(int j=1; j<=i; j++){
854                 if(j==1){
855                     System.out.print("*");
856                 }
857                 else if(j==i){
858                     System.out.print("*");
859                 }
860                 else if(i==5){
861                     System.out.print("*");
862                 }
863                 else{
864                     System.out.print(" ");
865                 }
866             }
867             System.out.println();
868         }
869     }
870 }
```
871 ------------------------------------------------
872
873 Pattern 16:
874     *
875    **
876   * *
877  *   *
878 *****
879
880 Java code:
881
```
882 class Pattern16{
883     public static void main(String[] args){
884         for(int i=1; i<=5; i++){
885             for(int j=1; j<=5; j++){
886                 if(j==6-i){
887                     System.out.print("*");
888                 }
889                 else if(j==5){
890                     System.out.print("*");
891                 }
892                 else if(i==5){
893                     System.out.print("*");
894                 }
895                 else{
896                     System.out.print(" ");
897                 }
```

```
898                     }
899                     System.out.println();
900                 }
901         }
902    }
903
904
905
906
907    ------------------------------------------------
908    ------------------------------------------------
909    ------------------------------------------------
910
911
912    Pyramid Pattern 1:
913             1
914            2 2
915           3 3 3
916          4 4 4 4
917         5 5 5 5 5
918        6 6 6 6 6 6
919       7 7 7 7 7 7 7
920      8 8 8 8 8 8 8 8
921     9 9 9 9 9 9 9 9 9
922
923    Java code:
924
925    class Pyramid_Pattern1{
926        public static void main(String[] args){
927            for(int i=1; i<=9; i++){
928                for(int k=9; k>i; k--){
929                    System.out.print(" ");
930                }
931                for(int j=1; j<=i; j++){
932                    System.out.print(i+" ");
933                }
934                System.out.println();
935            }
936        }
937    }
938    ------------------------------------------------
939
940    Pyramid Pattern 2:
941             1
942            1 2
943           1 2 3
944          1 2 3 4
945         1 2 3 4 5
946        1 2 3 4 5 6
947       1 2 3 4 5 6 7
948      1 2 3 4 5 6 7 8
949     1 2 3 4 5 6 7 8 9
950
951    Java code:
952
953    class Pyramid_Pattern2{
954        public static void main(String[] args){
955            for(int i=1; i<=9; i++){
956                for(int k=9; k>i; k--){
957                    System.out.print(" ");
958                }
959                for(int j=1; j<=i; j++){
960                    System.out.print(j+" ");
961                }
962                System.out.println();
963            }
964        }
965    }
966    ------------------------------------------------
```

```
  967
  968    Pyramid Pattern 3:
  969              *
  970            * *
  971           * * *
  972          * * * *
  973         * * * * *
  974        * * * * * *
  975       * * * * * * *
  976      * * * * * * * *
  977     * * * * * * * * *
  978
  979    Java code:
  980
  981    class Pyramid_Pattern3{
  982        public static void main(String[] args){
  983            for(int i=1; i<=9; i++){
  984                for(int k=9; k>i; k--){
  985                    System.out.print(" ");
  986                }
  987                for(int j=1; j<=i; j++){
  988                    System.out.print("* ");
  989                }
  990                System.out.println();
  991            }
  992        }
  993    }
  994    ------------------------------------------------
  995
  996    Pyramid Pattern 4:
  997                    1
  998                  1 2 1
  999                1 2 3 2 1
 1000              1 2 3 4 3 2 1
 1001            1 2 3 4 5 4 3 2 1
 1002          1 2 3 4 5 6 5 4 3 2 1
 1003        1 2 3 4 5 6 7 6 5 4 3 2 1
 1004      1 2 3 4 5 6 7 8 7 6 5 4 3 2 1
 1005    1 2 3 4 5 6 7 8 9 8 7 6 5 4 3 2 1
 1006
 1007    Java code:
 1008
 1009    class Pyramid_Pattern4{
 1010        public static void main(String[] args){
 1011            for(int i=1; i<=9; i++){
 1012                for(int k=9; k>i; k--){
 1013                    System.out.print(" ");
 1014                }
 1015                for(int j=1; j<i; j++){
 1016                    System.out.print(j);
 1017                }
 1018                int c=i;
 1019                for(int j=1; j<=i; j++){
 1020                    System.out.print(c);
 1021                    c--;
 1022                }
 1023                System.out.println();
 1024            }
 1025        }
 1026    }
 1027    ------------------------------------------------
 1028
 1029    Pyramid Pattern 5:
 1030                    9
 1031                  8 9 8
 1032                7 8 9 8 7
 1033              6 7 8 9 8 7 6
 1034            5 6 7 8 9 8 7 6 5
 1035          4 5 6 7 8 9 8 7 6 5 4
```

```
      3 4 5 6 7 8 9 8 7 6 5 4 3
    2 3 4 5 6 7 8 9 8 7 6 5 4 3 2
  1 2 3 4 5 6 7 8 9 8 7 6 5 4 3 2 1
```

Java code:

```java
class Pyramid_Pattern5{
    public static void main(String[] args){
        for(int i=9; i>=1; i--){
            for(int k=1; k<i; k++){
                System.out.print("   ");
            }
            int c=i;
            for(int j=9; j>i; j--){
                System.out.print(c+"  ");
                c++;
            }
            for(int j=9; j>=i; j--){
                System.out.print(j+"  ");
            }
            System.out.println();
        }
    }
}
```
-----------------------------------------------

Pyramid Pattern 6:
```
* * * * * * * * *
 * * * * * * * *
  * * * * * * *
   * * * * * *
    * * * * *
     * * * *
      * * *
       * *
        *
```

Java code:

```java
class Pyramid_Pattern6{
    public static void main(String[] args){
        for(int i=9; i>=1; i--){
            for(int k=9; k>i; k--){
                System.out.print(" ");
            }
            for(int j=1; j<=i; j++){
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```
-----------------------------------------------

Pyramid Pattern 7:
```
9 9 9 9 9 9 9 9 9
 8 8 8 8 8 8 8 8
  7 7 7 7 7 7 7
   6 6 6 6 6 6
    5 5 5 5 5
     4 4 4 4
      3 3 3
       2 2
        1
```

Java code:

```java
class Pyramid_Pattern6{
    public static void main(String[] args){
```

```java
1105            for(int i=9; i>=1; i--){
1106                for(int k=9; k>i; k--){
1107                    System.out.print(" ");
1108                }
1109                for(int j=1; j<=i; j++){
1110                    System.out.print(i+" ");
1111                }
1112                System.out.println();
1113            }
1114        }
1115    }
1116
```