**Pattern Programming\_Assignment**

Question 1: -**Write a Program to print alphabets A,B,C,D,E,F,G,H using patterns programming logic.**

Solution: -**package** hello;

//Question number 1:-

**class** pattern\_letter {

**public** **void** print\_A(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** (i == 0 && j > 0 && j < ((number - 1) / 2) || j == 0 && i > 0

|| i == ((number - 1) / 2) && j <= ((number - 1) / 2) || j == (number - 1) / 2 && i > 0) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

**public** **void** print\_B(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** (i == 0 && j > 0 && j < ((number - 1) / 2) || j == 0

|| i == (number - 1) / 2 && j <= (number - 1) / 2 || i == (number - 1) && j < ((number - 1) / 2)

|| j == (number - 1) / 2 && i != 0 && i != (number - 1)) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

**public** **void** print\_C(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** (i == 0 && j > 0 && j < (number - 1) / 2 || j == 0 && i > 0 && i < (number - 1)

|| i == 1 && j == (number - 1) / 2 || i == (number - 2) && j == (number - 1) / 2

|| i == (number - 1) && j > 0 && j < (number - 1) / 2) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

**public** **void** print\_D(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** (i == 0 && j < ((number - 1) / 2) || j == 0 || i == (number - 1) && j < (number - 1) / 2

|| j == (number - 1) / 2 && i > 0 && i < (number - 1)) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

**public** **void** print\_E(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** (i == 0 || j == 0 || i == (number - 1) / 2 || i == number - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

**public** **void** print\_F(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** (i == 0 || j == 0 || i == (number - 1) / 2 && j != number - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

**public** **void** print\_G(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** (i == 0 && j > 0 && j < (number - 1) / 2

|| j == 0 && i > 0 && i < (number - 1)

|| i == 1 && j == (number - 1) / 2

|| i == (number - 3) && j == (((number - 1) / 2) - 1 )

|| i == (number - 3) && j == (((number - 1) / 2) )

|| i == (number - 2) && j == (number - 1) / 2

|| i == (number - 1) && j > 0 && j < (number - 1) / 2) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

**public** **void** print\_H(**int** number) {

**for** (**int** i = 0; i < number; i++) {

**for** (**int** j = 0; j < number; j++) {

**if** ( j == 0

|| i == (number - 1)/2

|| j == (number - 1)) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

}

**public** **class** pattern {

**public** **static** **void** main(String[] args) {

pattern\_letter pltr = **new** pattern\_letter();

System.***out***.println("print A");

pltr.print\_A(12);

System.***out***.println("print B");

pltr.print\_B(13);

System.***out***.println("print C");

pltr.print\_C(11);

System.***out***.println("print D");

pltr.print\_D(9);

System.***out***.println("print E");

pltr.print\_E(7);

System.***out***.println("print F");

pltr.print\_F(7);

System.***out***.println("print G");

pltr.print\_G(13);

System.***out***.println("print H");

pltr.print\_H(11);

}

}

Question 2: -**Write a program to print triangle using star programming logic .**

Solution: -

**package** hello;

//Question number 2: -

**import** java.util.Scanner;

**public** **class** triangle\_Pattern {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the number of rows=:");

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++) {

**for** (**int** j = rows; j >= i; j--) {

System.***out***.print(" ");

}

**for** (**int** j = 1; j <= i; j++) {

System.***out***.print("\* ");

}

System.***out***.println();

}

}

}

Question 3: -**WAP to print.**

Solution: -

**package** hello;

//Question number 3: -

**public** **class** home\_desion {

**public** **static** **void** main(String[] args) {

**int** num;

num = 14;

**for** (**int** i = 1; i <= num; i++) {

**for** (**int** j = 1; j <= num; j++) {

**if** (i == 1 || j == 1 || i == 2 && j > num / 2 && j < ((num / 2))

|| j == 2 && i < num / 2 || j == 3 && i < num / 2 - 1 || j == 4 && i < num / 2 - 2

|| j == 5 && i < num / 2 - 3 || j == 6 && i < num / 2 - 4 || j == 7 && i < num / 2 - 5

|| j == 7 && i < num / 2 - 6 || j == num - 1 && i <= num / 2 || j == num - 2 && i < num / 2

|| j == num - 3 && i < num / 2 - 1 || j == num - 4 && i < num / 2 - 2

|| j == num - 5 && i < num / 2 - 3 || j == num - 6 && i < num / 2 - 4

||j==num-7&&i<num/2-5|| i == num || j == num)

{

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

}

}

Question 4: -**Write a Program to print alphabets PW SKILLS using patterns programming logic**

Solution : -**package** hello;

//Question number 4: -

**class** pwskill {

**public** **void** call\_P(**int** num) {

System.***out***.println("P");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 || j == 0 || i == ((num / 2) - 1) || j == num - 1 && i <= (num / 2) - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("W");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 && j == 0 && j == num - 1 || j == 0 || j == 1 && i == num - 2 || j == 2 && i == num - 3

|| j == 3 && i == num - 4 || j == 4 && i == num - 3 || j == 5 && i == num - 2 || j == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("S");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 || j == 0 && i < ((num - 1) / 2) || i == ((num / 2)) || j == num - 1 && i > (num / 2) - 1

|| i == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("K");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 && j == ((num - 1) / 2 + 1) || j == 0 || i == 1 && j == ((num - 1) / 2 + 1) - 1

|| i == num - 2 && j == ((num - 1) / 2 + 1) - 1 || i == (num - 1) / 2 && j == 1

|| i == (num - 1) / 2 + 1 && j == 2 || i == (num - 1) / 2 - 1 && j == 2

|| j == (num - 1) / 2 && i == 0 && i == num - 1 || i == num - 1 && j == ((num - 1) / 2 + 1)) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("I");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 || j == (num - 1) / 2 || i == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("L");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (j == 0 || i == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("L");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (j == 0 || i == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("S");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 || j == 0 && i < ((num - 1) / 2) || i == ((num / 2)) || j == num - 1 && i > (num / 2) - 1

|| i == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

}

}

**public** **class** pwSkill\_pattern {

**public** **static** **void** main(String[] args) {

pwskill ps = **new** pwskill();

ps.call\_P(7);

}

}

Question 5: -**Write a Program to print Your Full Name using patterns programming logic**

Solution: -

**package** hello;

//Question number 5: -

**class** print\_myName {

**public** **void** print\_name(**int** num) {

System.***out***.println("V");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 && j == 0 && j == num - 1 || j == 0 && i <= (num - 1) / 2

|| j == num - 1 && i <= (num - 1) / 2 || i == (num - 1) / 2 + 1 && j == 1

|| i == (num - 1) / 2 + 2 && j == 2 || i == (num - 1) / 2 + 3 && j == 3

|| i == (num - 1) / 2 + 1 && j == (num - 2) || i == (num - 1) / 2 + 2 && j == (num - 2)

|| i == (num - 1) / 2 + 3 && j == (num - 3) || i == num - 1 && j == (num - 1) / 2) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("I");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 || j == (num - 1) / 2 || i == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("K");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 && j == ((num - 1) / 2 + 1) || j == 0 || i == 1 && j == ((num - 1) / 2 + 1) - 1

|| i == num - 2 && j == ((num - 1) / 2 + 1) - 1 || i == (num - 1) / 2 && j == 1

|| i == (num - 1) / 2 + 1 && j == 2 || i == (num - 1) / 2 - 1 && j == 2

|| j == (num - 1) / 2 && i == 0 && i == num - 1 || i == num - 1 && j == ((num - 1) / 2 + 1)) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

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

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 && j > 0 && j < ((num - 1) / 2) || j == 0 && i > 0

|| i == ((num - 1) / 2) && j <= ((num - 1) / 2) || j == (num - 1) / 2 && i > 0) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

System.***out***.println("S");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** (i == 0 || j == 0 && i < ((num - 1) / 2) || i == ((num / 2)) || j == num - 1 && i > (num / 2) - 1

|| i == num - 1) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

System.***out***.println("H");

**for** (**int** i = 0; i < num; i++) {

**for** (**int** j = 0; j < num; j++) {

**if** ( j == 0

|| i == (num - 1)/2

|| j == (num - 1)) {

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

}

**public** **class** myName {

**public** **static** **void** main(String[] args) {

print\_myName pm = **new** print\_myName();

pm.print\_name(10);

}

}