Assignment – 08

A Job Ready Bootcamp in C++, DSA and IOT

Pattern Problems

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1. Write a program to draw the following patterns:

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Program:

#include<stdio.h>

#include<math.h>

int main()

{

for(int i=1;i<=5;i++)

{

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

{

printf("\* ");

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.04061 seconds with return value 0

Press any key to continue . . .

Q. 2.

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Input:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=(5-i);j++)

{

printf(" ");

}

for(int k=(5-i+1);k<=5;k++)

{

printf("\* ");

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.0243 seconds with return value 0

Press any key to continue . . .

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Input:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=(6-i);j++)

{

printf("\* ");

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.03498 seconds with return value 0

Press any key to continue . . .

Q. 4.

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Input:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int k=1;k<=(i-1);k++)

{

printf(" ");

}

for(int j=i;j<=5;j++)

{

printf("\* ");

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.02634 seconds with return value 0

Press any key to continue . . .

Q 5.

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=(6-i);j++)

{

printf(" ");

}

for(int k=1;k<=(2\*i-1);k++)

{

printf("\* ");

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.04997 seconds with return value 0

Press any key to continue . . .

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Program:

#include<stdio.h>

int main()

{

int odd=9;

for(int i=1;i<=5;i++)

{

for(int j=1;j<=i-1;j++)

{

printf(" ");

}

for(int k=1;k<=odd;k++)

{

printf("\* ");

}

odd=odd-2;

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.05284 seconds with return value 0

Press any key to continue . . .

Program:

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#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=(6-i);j++)

{

printf("\* ");

}

for(int k=1;k<=(i-1);k++)

{

printf(" ");

}

for(int l=1;l<=(i-1);l++)

{

printf(" ");

}

for(int m=1;m<=(6-i);m++)

{

printf("\* ");

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.03232 seconds with return value 0

Press any key to continue . . .

Q.

1

1 2 1

1 2 3 2 1

1 2 3 4 3 2 1

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=4;i++)

{

for(int j=1;j<=(4-i);j++)

{

printf(" ");

}

int m=i;

for(int k=1;k<=(2\*i-1);k++)

{

if(k<=i)

{

printf("%d ",k);

}

else

{

{

printf("%d ",--m);

}

}

}

printf("\n");

}

return 0;

}

Output:

1

1 2 1

1 2 3 2 1

1 2 3 4 3 2 1

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Process exited after 0.03866 seconds with return value 0

Press any key to continue . . .

Q.

1 2 3 4 3 2 1

1 2 3 2 1

1 2 1

1

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=4;i++)

{

for(int j=1;j<=(i-1);j++)

{

printf(" ");

}

for(int k=1;k<=(5-i);k++)

{

printf("%d ",k);

}

for(int l=(4-i);l>=1;l--)

{

printf("%d ",l);

}

printf("\n");

}

return 0;

}

Output:

1 2 3 4 3 2 1

1 2 3 2 1

1 2 1

1

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Process exited after 0.02939 seconds with return value 0

Press any key to continue . . .

A

A B A

A B C B A

A B C D C B A

Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=4;i++)

{

for(int j=1;j<=(5-i);j++)

{

printf(" ");

}

for(int k=1;k<=i;k++)

{

printf("%c ",64+k);

}

int m=63+i;

for(int l=1;l<=(i-1);l++)

{

printf("%c ",m);

m=m-1;

}

printf("\n");

}

return 0;

}

Output:

A

A B A

A B C B A

A B C D C B A

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Process exited after 0.2802 seconds with return value 0

Press any key to continue . . .

A B C D C B A

A B C B A

A B A

A

Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=4;i++)

{

for(int j=1;j<=(i-1);j++)

{

printf(" ");

}

int n;

for(int k=1;k<=(5-i);k++)

{

printf("%c ",64+k);

n=k;

}

int m=64+n-1;

for(int l=1;l<=(4-i);l++)

{

printf("%c ",m);

m--;

}

printf("\n");

}

return 0;

}

Output:

A B C D C B A

A B C B A

A B A

A

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Process exited after 0.0439 seconds with return value 0

Press any key to continue . . .

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=5;j++)

{

if(j==1 || i==5)

{

printf("\* ");

}

else if( i!=j)

{

printf(" ");

}

else

{

printf("\* ");

}

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.07854 seconds with return value 0

Press any key to continue . . .

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=5;j++)

{

if( j==5||j==(6-i)|| i==5)

{

printf("\* ");

}

else

{

printf(" ");

}

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.04194 seconds with return value 0

Press any key to continue . . .

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=9;j++)

{

if(j==(5-(i-1))||j==(5+(i-1))||i==5)

printf("\* ");

else

printf(" ");

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.04237 seconds with return value 0

Press any key to continue . . .

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=9;j++)

{

if(j==(5-(5-i))||j==(5+(5-i))||i==1)

printf("\* ");

else

printf(" ");

}

printf("\n");

}

return 0;

}

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Process exited after 0.05409 seconds with return value 0

Press any key to continue . . .

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Program:

#include<stdio.h>

int main()

{

for(int i=1;i<=9;i++)

{

if(i<=5)

{

for(int j=1;j<=9;j++)

{

if((5-i)<j && j<(5+i))

printf("\* ");

else

printf(" ");

}

}

else

{

for(int k=1;k<=9;k++)

{

if((i-5)<k && k<(10-(i-5)))

printf("\* ");

else

printf(" ");

}

}

printf("\n");

}

return 0;

}

Output:

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Process exited after 0.02301 seconds with return value 0

Press any key to continue . . .

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\* \* \* \* \* \* M Y S I R G \* \* \* \* \* \* \*

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PROGRAM:

#include<stdio.h>

int main()

{

for(int i=1;i<=3;i++)

{

for(int j=1;j<=19;j++)

{

if ((4-i<=j && j<=6+i) || (14-i<=j && j<=16+i))

{

printf("\* ");

}

else

printf(" ");

}

printf("\n");

}

for(int k =1;k<=11;k++)

{

for (int l=1;l<=19;l++)

{

if(k-1<=l && l<=21-k)

{

if(k==1 && l==7 )

{

printf("M Y S I R G ");

}

if(k==1 && l>=7 &&l<=12)

continue;

else

printf("\* ");

}

else

printf(" ");

}

printf("\n");

}

}

OUTPUT:

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\* \* \* \* \* \* M Y S I R G \* \* \* \* \* \* \*

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Process exited after 0.0546 seconds with return value 0

Press any key to continue . . .