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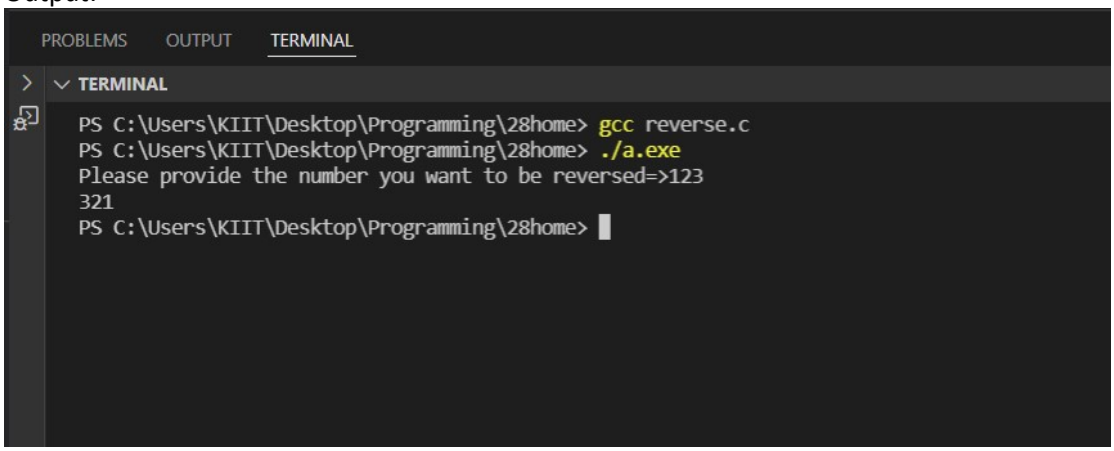
Day 28 Home questions

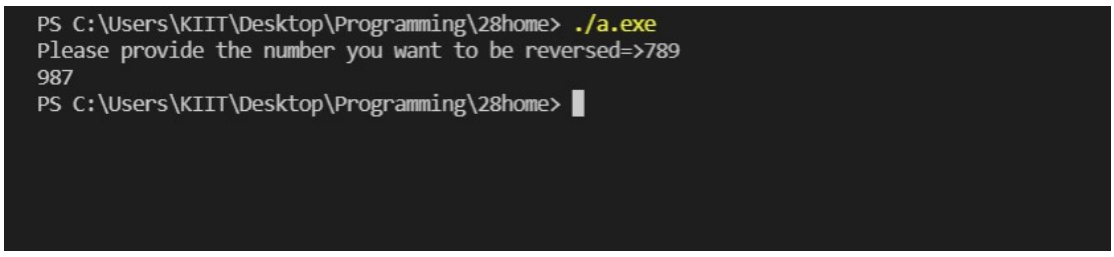
#1. WAP to display the reverse of a number entered through keyboard.

Code:

```c
#include <stdio.h>
int main()
{
    int i285,rem285,n285,div285;
    printf("Please provide the number you want to be reversed=>");
    scanf("%d",&n285);
    for(i285=1;i285<=n285;n285=n285/10)
    {
        rem285=n285%10;
        printf("%d",rem285);
    }
    return 0;
}
```

Output:





#2. WAP to check whether an integer number is a Armstrong number or not!.

Code:

```c
#include <stdio.h>
#include <math.h>
int main()
{
    int i285,sum285,n285,rem285,globe285,j285,dummy285;
    printf("Please provide a number to check if it is armstrong=>");
    scanf("%d",&n285);
    globe285=n285;
    for(i285=1;i285<=n285;n285=n285/10)
    {
        rem285=n285%10;
        sum285= sum285 + pow(rem285,3);
        if(sum285==globe285)
        {
```

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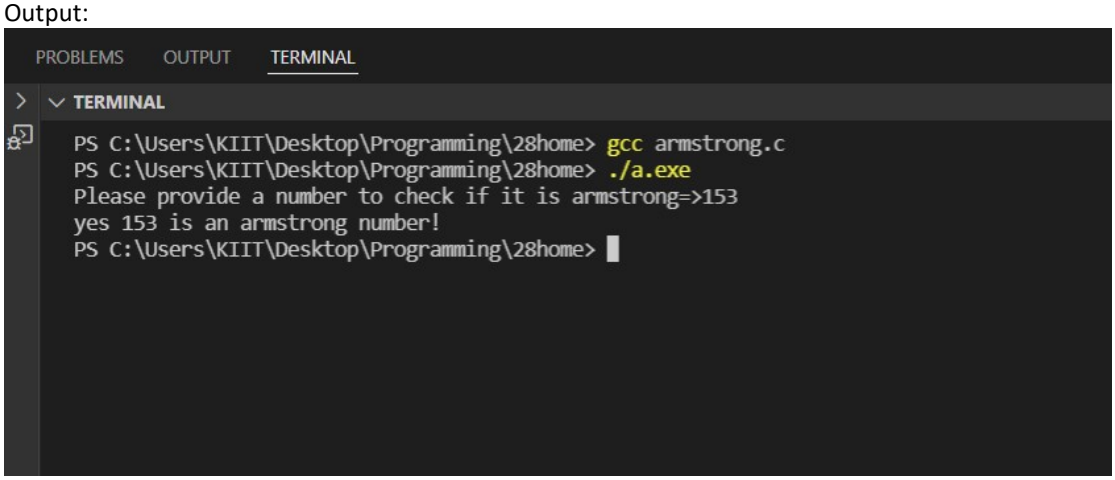
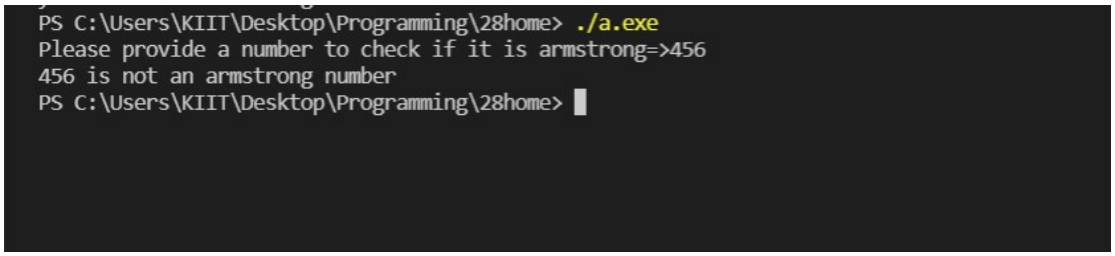
```
            dummy285=1;
            printf("yes %d is an armstrong number!\n",globe285);
        }
    }
    if(dummy285!=1)
    {
        printf("%d is not an armstrong number",globe285);
    }
    return 0;
}
```

Output:





#3. WAP to print the following pattern for n rows. Ex. for n=5 rows

A
B A
C B A
D C B A
E D C B A

Code:

```
#include<stdio.h>

void main()
{
    int i285,j285,n285;
    printf("\nEnter the number of lines\n");
    scanf("%d",&n285);
    for(i285=1;i285<=n285;i285++)
    {
        for(j285=i285;j285>=1;j285--)
        {
            printf("%c ",(char)(j285+64));
        }
        printf("\n");
```

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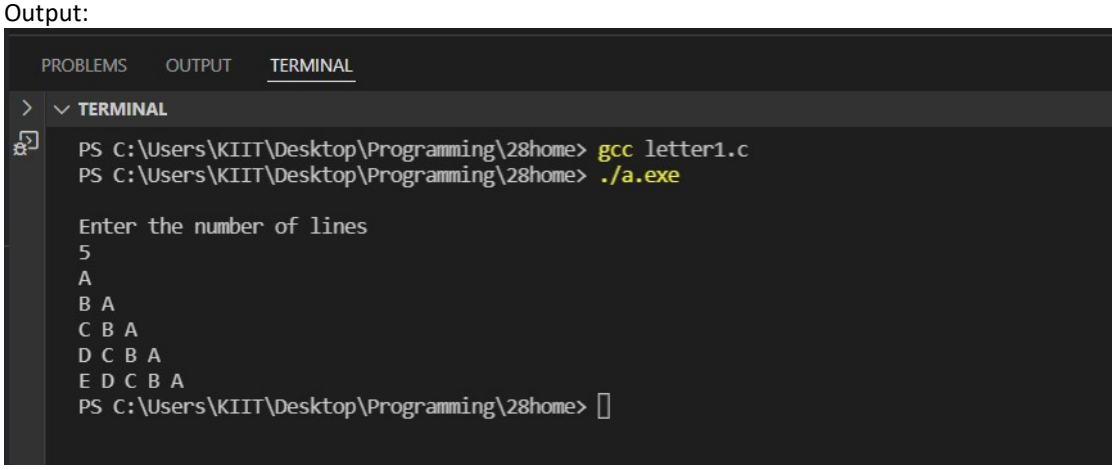
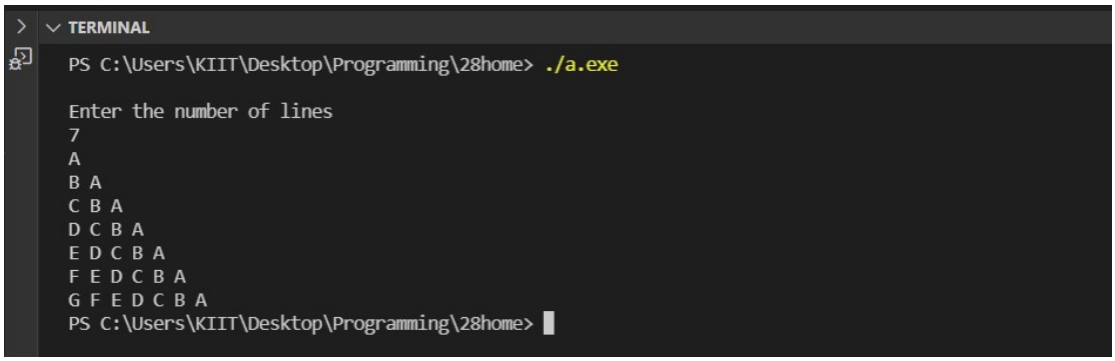
```
    }
}
```

Output:





#4. WAP to print the following pattern for n rows. Ex. for n=5 rows

```
1
2 1
1 2 3
4 3 2 1
1 2 3 4 5
```

Code:

```c
#include <stdio.h>
int main()
{
int i285, j285, N285;
printf("\nEnter rows: ");
scanf("%d", &N285);
for(i285=1; i285<=N285; i285++)
{
    if(i285 & 1)
    {
        for(j285=1; j285<=i285; j285++)
        {printf("%d ", j285);}
    }
    else
    {
        for(j285=i285; j285>=1; j285--)
        {printf("%d ", j285);}
    }
printf("\n");
}
```

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```
return 0;
}
```

Output:

```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> gcc num1.c
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter rows: 5
1
2 1
1 2 3
4 3 2 1
1 2 3 4 5
PS C:\Users\KIIT\Desktop\Programming\28home>
```

```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter rows: 6
1
2 1
1 2 3
4 3 2 1
1 2 3 4 5
6 5 4 3 2 1
PS C:\Users\KIIT\Desktop\Programming\28home>
```

#5. WAP to form reverse pyramid of numbers for a given number. Ex. for number 4

```
1 2 3 4 3 2 1
 1 2 3 2 1
    1 2 1
     1
```

Code:

```
#include <stdio.h>
int main()
{
int i285,j285,rows285,space285=0;
printf("\nEnter the number of rows:");
scanf("%d",&rows285);
for(i285=rows285; i285>=1; i285--)
{
    for(j285=1; j285<=space285; j285++)
        printf("   ");
    for(j285=1; j285<=i285; j285++)
        printf(" %d ",j285);
    for(j285=i285-1; j285>=1; j285--)
        printf(" %d ",j285);
    printf("\n");
    space285++;
}
return 0;
}
```

Output:

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```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> gcc num2.c
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter the number of rows:5
 1  2  3  4  5  4  3  2  1
    1  2  3  4  3  2  1
       1  2  3  2  1
          1  2  1
             1
PS C:\Users\KIIT\Desktop\Programming\28home>
```

```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter the number of rows:6
 1  2  3  4  5  6  5  4  3  2  1
    1  2  3  4  5  4  3  2  1
       1  2  3  4  3  2  1
          1  2  3  2  1
             1  2  1
                1
PS C:\Users\KIIT\Desktop\Programming\28home>
```

#6. WAP to print the following pattern for n rows. Ex. for n=6 rows

```
0
1 0
0 1 0
1 0 1 0
0 1 0 1 0
1 0 1 0 1 0
```

Code:

```c
#include <stdio.h>
int main()
{
int i285,j285,rows285;
int num285=1;
printf("\nEnter the number of rows: ");
scanf("%d",&rows285 );
for(i285=1; i285<=rows285; i285++)
{
    for(j285=1; j285<=i285; j285++)
    {
        printf(" %d ",num285);
        num285=!num285;
    }
    num285=i285%2;
    printf("\n");
}
    return 0;
}
```

Output:

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```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> gcc num3.c
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter the number of rows: 5
 1
 1  0
 0  1  0
 1  0  1  0
 0  1  0  1  0
PS C:\Users\KIIT\Desktop\Programming\28home>
```

```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter the number of rows: 6
 1
 1  0
 0  1  0
 1  0  1  0
 0  1  0  1  0
 1  0  1  0  1  0
PS C:\Users\KIIT\Desktop\Programming\28home>
```

#7. WAP to generate the pascal triangle pyramid of numbers for a given number.

Ex. for number 4

```
    1
   1 1
  1 2 1
 1 3 3 1
1 4 6 4 1
```

Code:

```c
#include <stdio.h>
int main()
{
int rows285, coef285 = 1, space285, i285, j285;
printf("\nEnter the number of rows: ");
scanf("%d", &rows285);
for (i285 = 0; i285 < rows285 +1; i285++)
{
    for (space285 = 1; space285 <= rows285 - i285; space285++)
        printf("  ");
    for (j285 = 0; j285 <= i285; j285++)
    {
        if (j285 == 0 || i285 == 0)
        coef285 = 1;
        else
        coef285 = coef285 * (i285 - j285 + 1) / j285;
        printf("%4d", coef285);
    }
    printf("\n");
}
return 0;
}
```

Output:

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```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> gcc num4.c
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter the number of rows: 4
          1
        1   1
      1   2   1
    1   3   3   1
  1   4   6   4   1
PS C:\Users\KIIT\Desktop\Programming\28home>
```

```
PROBLEMS  OUTPUT  TERMINAL
TERMINAL
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe

Enter the number of rows: 5
            1
          1   1
        1   2   1
      1   3   3   1
    1   4   6   4   1
  1   5  10  10   5   1
PS C:\Users\KIIT\Desktop\Programming\28home>
```

#8. WAP to display the following style o/p for a given string input through keyboard.(Ex.for a string “KIITCSIT”)

KIITCSITTISCTIIK
KIITCSI ISCTIIK
KIITCS SCTIIK
KIITC CTIIK
KIIT TIIK
KII IIK
KI IK
K K
KI IK
KII IIK
KIIT TIIK
KIITC CTIIK
KIITCS SCTIIK
KIITCSI ISCTIIK
KIITCSITTISCTIIK

Code:

```c
#include<stdio.h>

int main(){

  int i285, j285;
  char str285[]="KIITCSIT";
  int pointer285 = 8;

  for(i285 = 0 ; i285 < 8 ; i285++ )
  {
    for( j285 =  0 ; j285 < pointer285 - i285 ; j285++)
      printf("%c", str285[j285]);

    for(j285 = 0 ; j285 < i285; j285++)
```

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```
      printf("  ");

    for( j285 =  pointer285- (i285+1) ; j285 >= 0 ; j285--)
      printf("%c", str285[j285]);

    printf("\n");
  }

  for(i285 = pointer285 - 1 ; i285 > 0  ; i285-- )
  {
    for( j285 =  0 ; j285 < (pointer285 - i285 + 1) ; j285++)
      printf("%c", str285[j285]);

    for(j285 = 0 ; j285 < i285- 1; j285++)
      printf("  ");

    for( j285 =  pointer285- i285 ; j285 >= 0 ; j285--)
      printf("%c", str285[j285]);

    printf("\n");
  }
}
```

Output:

```
PROBLEMS  OUTPUT  TERMINAL

TERMINAL

PS C:\Users\KIIT\Desktop\Programming\28home> gcc Diamond.c
PS C:\Users\KIIT\Desktop\Programming\28home> ./a.exe
KIITCSITTISCTIIK
KIITCSI  ISCTIIK
KIITCS    SCTIIK
KIITC      CTIIK
KIIT        TIIK
KII          IIK
KI            IK
K              K
KI            IK
KII          IIK
KIIT        TIIK
KIITC      CTIIK
KIITCS    SCTIIK
KIITCSI  ISCTIIK
KIITCSITTISCTIIK
PS C:\Users\KIIT\Desktop\Programming\28home>
```

#9. WAP to convert a decimal number into its equivalent binary number.
Code:

```
#include <stdio.h>
#include <math.h>

long long convert(int);
```

```
int main() {
  int n285, bin285;
  printf("Enter a decimal number: ");
  scanf("%d", &n285);
  bin285 = convert(n285);
  printf("%d in decimal =  %lld in binary", n285, bin285);
  return 0;
```

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```
}
```

```
long long convert(int n285) {
  long long bin285 = 0;
  int rem285, i285 = 1;
```

```
  while (n285!=0) {
    rem285 = n285 % 2;
    n285 /= 2;
    bin285 += rem285 * i285;
    i285 *= 10;
  }
```

```
  return bin285;
}
```

Output: