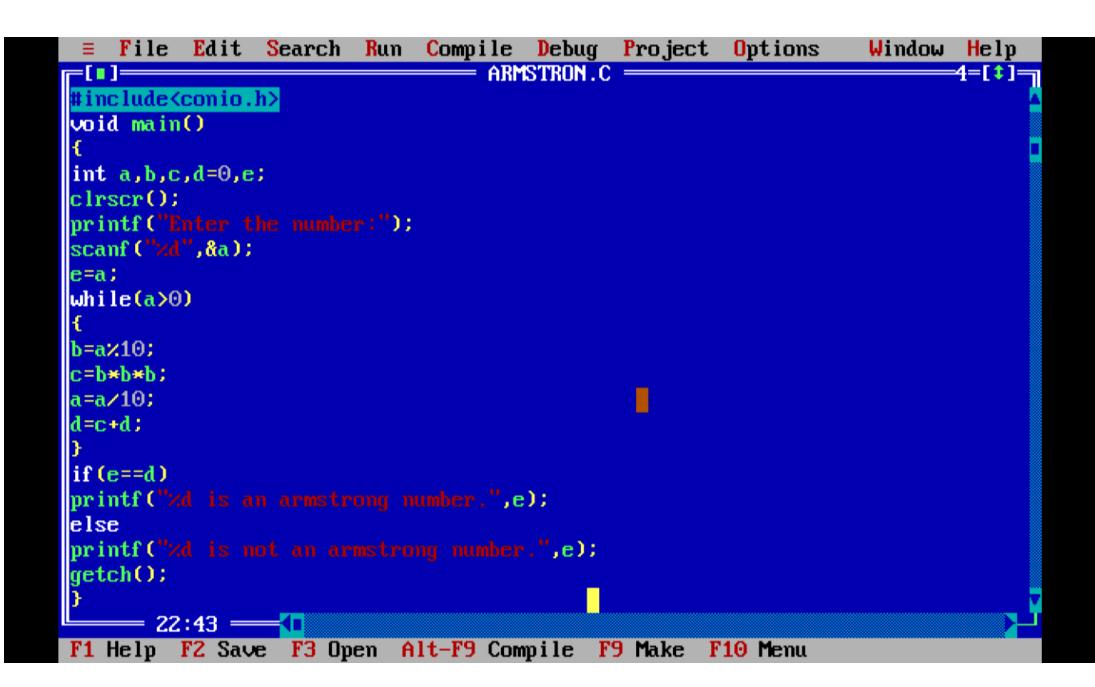
CSA 5761 FUNDAMENTALS OF COMPUTING FOR DATA DEVELOPMENT

ARMSTRONG:

```
Run Compile Debug Project Options
    File Edit Search
                                                                   Window Help
                                   ARMSTRON.C =
                                                                          4=[‡]=
#include<stdio.h>
#include<conio.h>
void main()
int a,b,c,d=0,e;
clrscr();
printf("Enter the number:");
scanf("xd",&a);
e=a:
while(a>0)
b=a×10;
c=b*b*b;
a=a/10;
d=c+d;
if (e==d)
printf("%d is an armstrong number.",e);
else
printf("%d is not an armstrong number.",e);
getch();
      = 9:44 -----<mark>▼</mark>□
F1 Help F2 Save F3 Open Alt-F9 Compile
                                                     F10 Menu
                                           F9 Make
```



Enter the number:153 153 is an armstrong number._ Enter the number:123 123 is not an armstrong number.

PALIDROME:

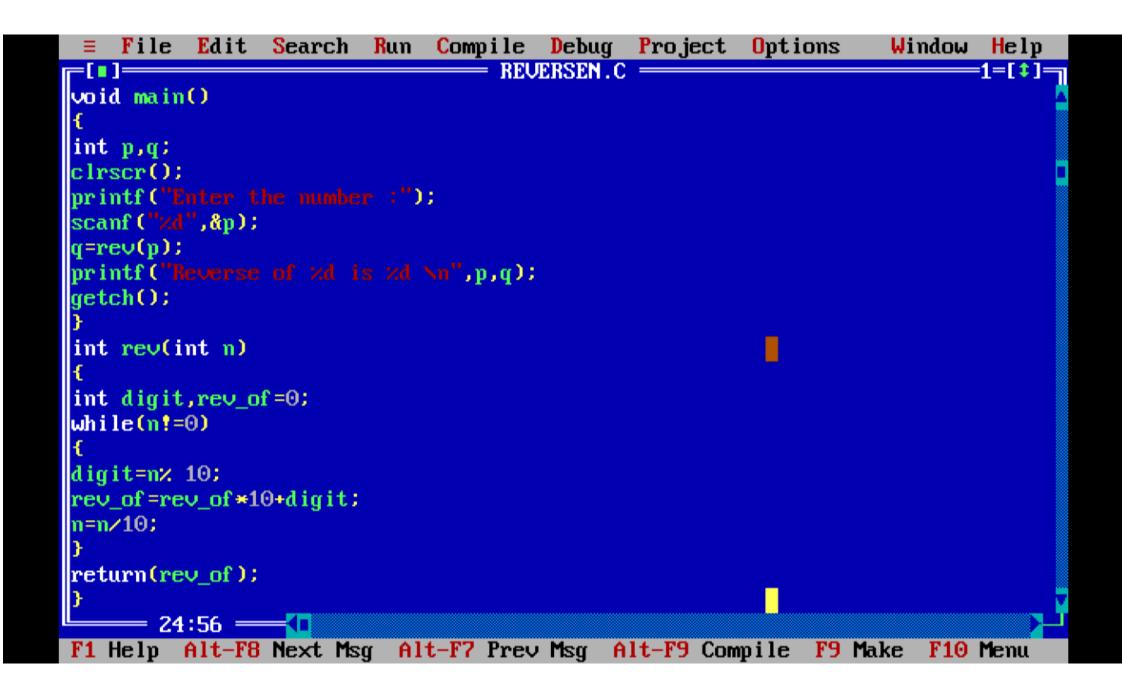
```
Run Compile Debug Project Options
         Edit Search
                                                                Window Help
                                 PALIDROM.C =
                                                                       1=[‡]=
#include<stdio.h>
#include<comio.h>
#include<string.h>
enum boolean {false, true};
enum Boolean ispalindrome(char string[])
int left,right,len=strlen(string);
enum Boolean matched = true;
if (len==0)
return true:
left = 0:
right = len - 1;
while(left < right && matched)
if(string[left]!=string[right])
matched=false:
else
left++;
right--;
    — 18:43 ——💶
F1 Help F2 Save F3 Open
                          Alt-F9 Compile
                                          F9 Make
                                                   F10 Menu
```

```
Search Run Compile Debug Project Options
    File
        Edit
                                                                Window Help
                                 PALIDROM.C -
                                                                       =1=[‡]=
left++;
right--;
return matched:
void main()
char string[40];
clrscr();
printf("Enter the string to check palidrone or not.\n");
printf("Enter a string :");
scanf("xs",string);
if(ispalindrome(string))
printf("The given string %s is a palidrome.\n",string);
else
printf("The given string zs is not a palidrome.\n",string);
getch();
       38:43 ---
                          Alt-F9 Compile
                                         F9 Make
                                                   F10 Menu
F1 Help F2 Save F3 Open
```

Enter the string to check palidrone or not. Enter a string :madam
The given string madam is a palidrome.

REVERSE NUMBER:

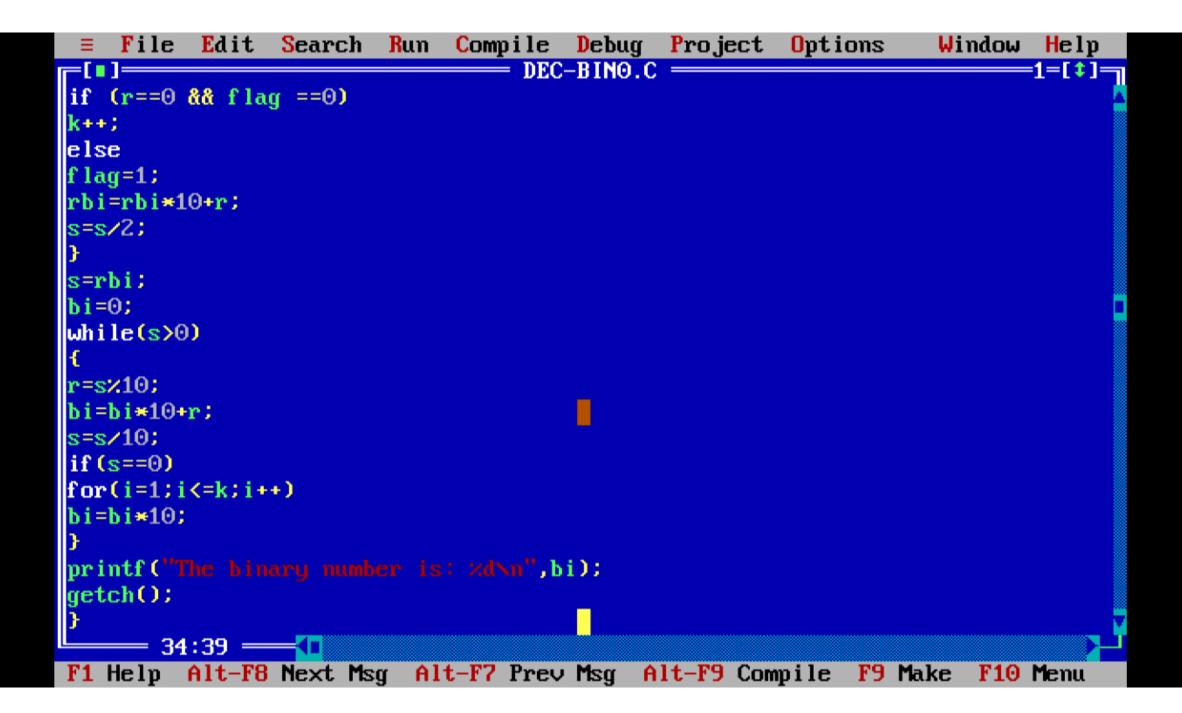
```
Compile Debug
                                             Project Options
                Search
                                                                 Window
         Edit
                        Run
                                                                         Help
                                  REVERSEN.C =
                                                                        =1=[‡]=
#include<stdio.h>
#include<conio.h>
int rev(int number);
void main()
int p,q;
clrscr();
printf("Enter the number :");
scanf ("zd",&p);
q=rev(p);
printf("Reverse of %d is %d \n",p,q);
getch();
int rev(int n)
int digit, rev_of=0;
while(n!=0)
digit=nz 10;
rev_of=rev_of*10+digit;
n=n/10;
       11:56
        Alt-F8 Next Msg
                          Alt-F7 Prev Msg
                                           Alt-F9 Compile
                                                           F9 Make
                                                                    F10 Menu
F1 Help
```



Enter the number :1234 Reverse of 1234 is 4321

DECIMAL TO BINARY:

```
Run Compile
                                             Project Options
    File
          Edit
               Search
                                      Debug
                                                                  Window Help
                                  DEC-BINO.C =
                                                                         =1=[‡]=
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
int n,s,r,i,bi,rbi,flag=0,k=0;
clrscr();
printf("Enter the decimal number:");
scanf ("zd",&n);
s=n;rbi=0;
while(s>0)
r=s % 2;
if (r==0 && flag ==0)
k++;
else
flag=1;
rbi=rbi*10+r;
s=s/2;
s=rbi;
       13:39 =
                                                                    F10 Menu
F1 Help
        Alt-F8 Next Msg
                          Alt-F7 Prev Msg
                                           Alt-F9 Compile
                                                           F9 Make
```



Enter the decimal number:14
The binary number is: 1110

SQUARE OF A DECIMAL:

```
Edit
    File
                Search
                             Compile
                                     Debug Project Options
                                                                  Window
                        Run
                                                                         Help
                                 = SQUARE01.C 💳
                                                                         -1=[‡]-
#include<stdio.h>
#include<conio.h>
int square(int);
void main()
lint x,n;
clrscr();
printf("Enter the nth element:");
scanf("zd",&n);
for(x=1;x<=n;x++)
printf("xd ",square(x));
printf("\n");
getch();
int square(int y)
return y*y;
        1:76
F1 Help
         Alt-F8 Next Msg Alt-F7 Prev Msg
                                          Alt-F9 Compile
                                                           F9 Make
                                                                    F10 Menu
```

Enter the nth element:8
1 4 9 16 25 36 49 64

TRANSPOSE OF A MATRIX:

```
Run Compile Debug
                                            Project Options
    File
          Edit
                Search
                                                                  Window Help
                                  TRANSPOS.C ===
                                                                         :1=[‡]=
#include<stdio.h>
#include<comio.h>
void main()
int a[10][10],b[10][10],i,j,m,n;
clrscr():
printf("Input Row & Coloumn of matrix:");
scanf("zdzd",&n,&m);
printf("Enter the elements of matrix.\n");
for(i=0;i<n;++i)
for(j=0;j<m;++j)
scanf ("zd", &a[i][j]);
for(i=0;i<m;++i)
for(j=0;j<n;++j)
b[i][j]=a[j][i];
printf("Transpose of the matrix is:\n");
for(i=0; i \le m; ++i)
for(j=0;j<n;++j)
printf("x3d",b[i][j]);
printf("\n");
    — 11:44 ——
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make
                                                                     F10 Menu
```

```
File Edit
               Search
                       Run Compile Debug Project Options
                                                                Window Help
                                 TRANSPOS.C ===
                                                                       -1=[‡]=
int a[10][10],b[10][10],i,j,m,n;
clrscrO:
printf("Input Row & Coloumn of matrix:");
scanf("xdxd",&n,&m);
printf("Enter the elements of matrix.\n");
for(i=0;i<n;++i)
for(j=0;j<m;++j)
scanf("xd",&a[i][j]);
for(i=0;i<m;++i)
for(j=0;j<n;++j)
b[i][j]=a[j][i];
printf("Transpose of the matrix is:\n");
for(i=0;i<m;++i)
for(j=0;j<n;++j)
printf("x3d",b[i][j]);
printf("\n");
getch();
      24:44 ===
                                                                   F10 Menu
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg
                                         Alt-F9 Compile
                                                         F9 Make
```

```
Input Row & Coloumn of matrix:3 3
Enter the elements of matrix.
1 2 3
4 5 6
7 8 9
Transpose of the matrix is:
1 4 7
2 5 8
3 6 9
```

SUM OF SERIES:

```
Edit
                             Compile
                                     Debug Project Options
    File
                Search
                        Run
                                                                 Window
                                                                         Help
                                  SERIESO1.C =
                                                                        =Z=[‡]=
#include<stdio.h>
#include<conio.h>
void main()
int i,j,n,s,term;
clrscr():
printf("Enter the value n:");
scanf ("zd",&n);
s=0;
for(i=1;i<=n;i++)
term=0;
for( j=1; j<=i; j++)
term=term+_j;
s=s+term:
printf("sum of the series S=%d.",s);
getch();
      21:2 ---
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg
                                          Alt-F9 Compile F9 Make
                                                                    F10 Menu
```

Enter the value n:4 sum of the series S=20.

CUBE OF A DECIMAL:

```
File
         Edit
                             Compile Debug Project Options
                Search
                        Run
                                                                  Window
                                                                          Help
                                  SERIESO1.C -
                                   COBEO1.C —
                                                                         =3=[†]=
                                   = CUBE01.C ====
   include<stdio.h>
  #include<conio.h>
  int cube(int);
  void main()
   int x,n;
   clrscr();
   printf("Enter the nth element :");
   scanf ("xd",&n);
   for(x=1;x<=n;x++)
   printf("xd ",cube(x));
   printf("\n");
   getch();
  int cube(int y)
    return y*y*y;
        = 1:1 <del>----</del>[
                           Alt-F9 Compile F9 Make F10 Menu
F1 Help
         FZ Save F3 Open
```

Enter the nth element :8 1 8 27 64 125 216 343 512

VOTING:

```
File.
          Edit
                Search
                        Run Compile Debug Project Options
                                                                   Window
                                                                           Help
                                   UDTINGOZ.C —
                                                                           -1=[‡]<del>--</del>-
#include<stdio.h>
#include<comio.h>
void main()
int age:
clrscr();
printf("Enter the age of a person:");
scanf ("xd", &age);
if (age<17)
printf("\n person is not eligible for voting");
else if(age>=18)
printf("\n person is eligible for voting");
getch();
       14:2 =
        FZ Save
                 F3 Open
                           Alt-F9 Compile
                                            F9 Make
                                                      F10 Menu
```

Enter the age of a person:16 person is not eligible for voting_ Enter the age of a person:19

person is eligible for voting_

NEGATIVE NUMBER:

```
Edit
              Search
                       Run Compile Debug Project Options
                                                                Window
                                                                        Help
    File
                                = POSNEG01.C ===
                                                                       =1=[‡]=
#include<stdio.h>
int main()
double num:
clrscr();
printf("Enter a number:");
scanf("zd",&num);
if (num<0)
printf("you entered a negative number.");
else if(num>0)
printf("you entered a positive number.");
//return 0;
getch();
     = 15:33 ---
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make
                                                                   F10 Menu
```

Enter a number:7 you entered a negative number._

SIMPLE INTEREST:

```
File Edit Search Run Compile Debug Project Options
                                                                Window Help
                               — SIMPLEO1.C ——
                                                                       =2=[#]=
#include<stdio.h>
int main()
    float principle, time, rate, SI;
    clrscr();
    printf("Enter principle (amount): ");
    scanf ("xf", &principle);
    printf("Enter time: ");
    scanf ("xf", &time);
    printf("Enter rate: ");
    scanf ("xf", &rate);
    SI = (principle * time * rate) / 100;
    printf("Simple Interest = ×f", SI);
    return 0:
   — 18:22 ——
       Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make
                                                                   F10 Menu
F1 Help
```

Enter principle (amount): 2.1

Enter time: 3.1 Enter rate: 4.2

Simple Interest = 0.273420

LENGTH OF A STRING:

```
Search
                       Run Compile Debug
                                            Project Options
                                                                Window Help
    File
        Edit
                                 LENGTH01.C —
                                                                      -2=[$]=
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
char str[20];
clrscr();
printf("Enter the string:");
gets (str);
printf("The length of the string is:xd",strlen(str));
getch();
      12:2 ----
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile
                                                         F9 Make
                                                                   F10 Menu
```

Enter the string:pradesh guru
The length of the string is:12

SUM OF ELEMENTS IN AN ARRAY:

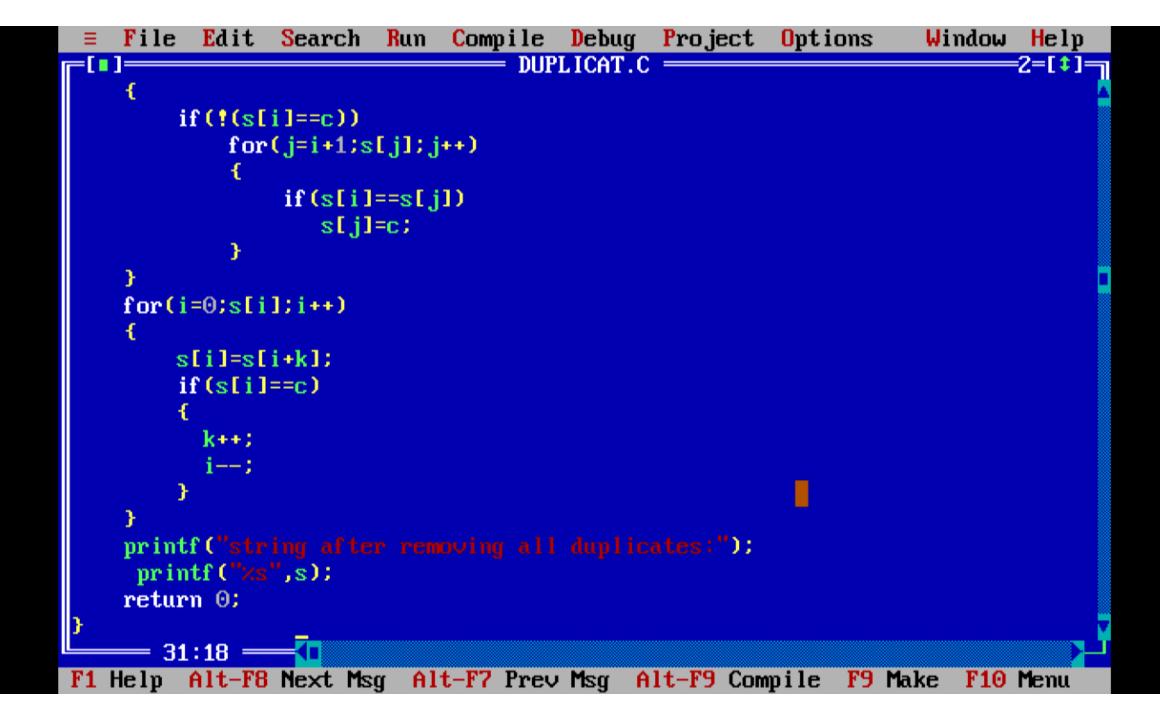
```
Edit
               Search Run Compile Debug Project Options
                                                                 Window Help
                                 ARRAYO1.C —
                                                                       -1=[‡]=
#include<stdio.h>
#include<conio.h>
∪oid main()
int arr [100],size,i,sum=0;
clrscr();_
printf("Enter array size\n");
scanf("zd",&size);
printf("Enter array element\n");
for(i = 0; i < size; i++)
scanf("zd",&arr[i]);
for(i = 0; i < size; i++)
sum = sum + arr[i]:
printf("sum of the array = xd\n",sum);
aetch();
      = 6:10 ----
       Alt-F8 Next Msg
                         Alt-F7 Prev Msg
                                         Alt-F9 Compile
                                                          F9 Make
                                                                   F10 Menu
```

```
Enter array size
4
Enter array element
5 6 3 8
sum of the array = 22
```

SUM OF DIGITS:

```
Edit
               Search
                      Run
                            Compile Debug Project Options
                                                               Window Help
                                 DIGITSO1.C -
                                                                      =1=[‡]=
int n, t, sum = 0, remainder;
clrscr();
printf("Enter an integer\n");
scanf("xd", &n);
t = n:
while (t != 0)
remainder=t×10:
sum=sum+remainder:
t=t/10;
printf("Sum of digits of %d=%d\n",n,sum);
return 0;
    — 17:2 ———
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make
                                                                  F10 Menu
```

Enter an integer 143 Sum of digits of 143=8



Enter the string :abacdce string after removing all duplicates:abcde

MULTIPLICATION TABLE:

```
File Edit Search Run Compile
                                    Debug Project Options
                                                                Window Help
                                 MULTIPLI.C =
                                                                        1=[‡]:
#include<stdio.h>
int main()
int n, i, range:
clrscr();
printf("Enter an integer: ");
scanf("%d", &n);
do
printf("Enter the range (positive integer): ");
scanf("%d", &range);
while (range <=0);
for (i = 1; i <= range; ++i)
printf("%d * %d = %d \n", n, i, n*i);
//return 0:
getch();
        1:18 ---
F1 Help
        Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile
                                                          F9 Make
                                                                   F10 Menu
```

```
Enter an integer: 9
Enter the range (positive integer): 10
9 * 1 = 9
9 * 2 = 18
9 * 3 = 27
9 * 4 = 36
9 * 5 = 45
9 * 6 = 54
9 * 7 = 63
9 * 8 = 72
9 * 9 = 81
9 * 10 = 90
```

PATTERN:

```
Edit Search Run Compile Debug Project Options
   File
                                                                Window Help
                              — PATTERNO.C ———
                                                                       =1=[‡]=
 #include<stdio.h>
 int main()
 int row, c, n;
 clrscr():
 printf("Enter the number of rows in pyramid of stars to print\n");
 scanf ("xd",&n);
 for (row = 1; row <= n; row++)
 for (c = 1; c \le n-row; c++)
 printf(" ");
 for (c = 1; c \le 2*row - 1; c++)
 printf("*");
 printf("\n");
 //return 0:
 getch():
  —— 18:15 ———
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

Enter the number of rows in pyramid of stars to print 9

×

 $\times\times\times$

XXXXX

ODD OR EVEN:

```
File Edit Search Run Compile Debug Project Options
                                                              Window Help
                              — ODDOREVE.C ———
                                                                    =1=[‡]=
#include<stdio.h>
int main()
int num;
clrscr();
printf("Enter an integer: ");
scanf("xd", &num);
if(num \times 2 == 0)
printf("%d is even.", num);
else
printf("%d is odd.", num);
//return 0;
getch();
   — 14:2 ——
                         Alt-F7 Prev Msg Alt-F9 Compile F9 Make
                                                                F10 Menu
F1 Help Alt-F8 Next Msg
```

Enter an integer: 5 is odd._

Enter an integer: 8 8 is even.

ELEMENTS FROM ARRAY AND DISPLAY ITS POSITION:

```
Edit
              Search Run Compile Debug Project Options
                                                                 Window Help
                                  ELEMENTF.C -
                                                                        =1=[‡]<del>=</del>=
#include<stdio.h>
int main()
int nbr, i, r, arr[30];
clrscr():
printf("Enter the number of elements in the array: ");
scanf("%d", &nbr);
printf("Enter the array elements: ");
for (i = 0; i < nbr; i++)
scanf("zd", &arr[i]);
printf("Enter the iten to be searched: ");
scanf("/d", &r);
i = 0;
while (i < nbr && r != arr[i])
if (i < nbr)
      = 1:19 ----
        Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile
                                                           F9 Make
                                                                    F10 Menu
```

```
File Edit
               Search Run Compile Debug Project Options
                                                                Window Help
                                 ELEMENTF.C -
                                                                      =1=[‡]=
printf("Enter the iten to be searched: ");
scanf("xd", &r);
i = 0;
while (i < nbr && r != arr[i])
if (i < nbr)
printf("The element is found in the position = \times d", i + 1);
else
printf("Element not found!");
//return 0:
getch();
       25:7 ---
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile
                                                          F9 Make F10 Menu
```

Enter the number of elements in the array: 8
Enter the array elements: 9 2 7 4 6 1 5 3
Enter the iten to be searched: 6
The element is found in the position = 5

CALCULATOR:

```
Edit Search Run Compile Debug Project Options
                                                                Window Help
                                 CALCULAT.C —
                                                                       =1=[‡]==
#include<stdio.h>
int main()
char Operator:
float num1, num2, result = 0;
clrscrO:
printf("Enter any one operator like +, -, *, \nearrow : ");
scanf ("xc", &Operator);
printf("Enter the values of operands num1 and num2: ");
scanf("xfxf", &num1, &num2);
switch(Operator)
case '+': result = num1 + num2;
|break;
case '-': result = num1 - num2;
break;
case '*': result = num1 * num2;
break:
case '/': result = num1 / num2;
|break:
default: printf("Invalid Operator ");
 ☀── 1:21 ── □
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

```
File Edit Search Run Compile Debug Project Options
                                                                Window Help
                               — CALCULAT.C —
[ [ ] ]
                                                                       =1=[$]--
clrscrO:
printf("Enter any one operator like +, -, *, / : ");
scanf("xc", &Operator);
printf("Enter the values of operands num1 and num2: ");
scanf("xfxf", &num1, &num2);
switch(Operator)
case '+': result = num1 + num2;
|break:
case '-': result = num1 - num2;
break:
case '*': result = num1 * num2;
|break:
case '/': result = num1 / num2;
break:
default: printf("Invalid Operator ");
printf("The value = %f", result);
//return 0:
getch();
 →---- 26:21 -----
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

Enter any one operator like +, -, *, / : + Enter the values of operands num1 and num2: 44 72 The value = 116.000000

MERGE TWO ARRAY:

```
■ File Edit Search Run Compile Debug Project Options
                                                               Window Help
[[]
                                 MERGEO1.C —
                                                                      =1=[‡]=
#include<stdio.h>
#include<conio.h>
int main()
int arr1[50], arr2[50], size1, size2, i, k, merge[100];
clrscr():
printf("Enter Array 1 Size: ");
scanf("zd", &s<mark>l</mark>ze1);
printf("Enter Array 1 Elements: ");
for(i=0; i<size1; i++)
scanf("%d", &arr1[i]);
merge[i] = arr1[i];
k=i:
printf("\nEnter Array 2 Size: ");
scanf("xd", &size2);
printf("Enter Array 2 Elements: ");
for(i=0; i<size2; i++)
scanf("xd", &arr2[i]);
 * 1:4Z = T
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make
                                                                 F10 Menu
```

```
File Edit Search Run Compile Debug Project Options
                                                               Window Help
                             — MERGE01.C ——
                                                                      1=[‡]=
for(i=0; i<size1; i++)
scanf("zd", &arr1[i]);
merge[i] = arr1[i];
k=i:
printf("\nEnter Array 2 Size: ");
scanf("zd", &size2);
printf("Enter Array 2 Elements: ");
for(i=0; i<size2; i++)
scanf("%d", &arr2[i]);
merge[k] = arr2[i];
k++;
printf("\nThe new array after merging is:\n");
for(i=0; i<k; i++)
printf("xd ", merge[i]);
getch();
return 0;
└┿─── 30:42 ───【□
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

```
Enter Array 1 Size: 4
Enter Array 1 Elements: 1
2
3
4
Enter Array 2 Size: 4
Enter Array 2 Elements: 5
6
7
8
The new array after merging is: 1 2 3 4 5 6 7 8
```