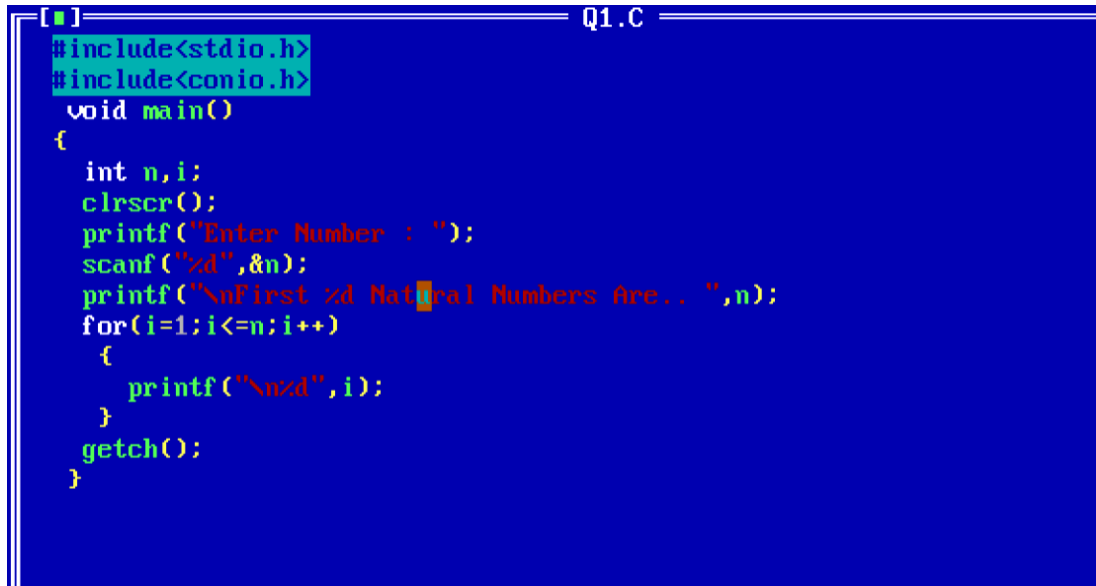


Question 1: Write A Program to Display **N** Natural Numbers.

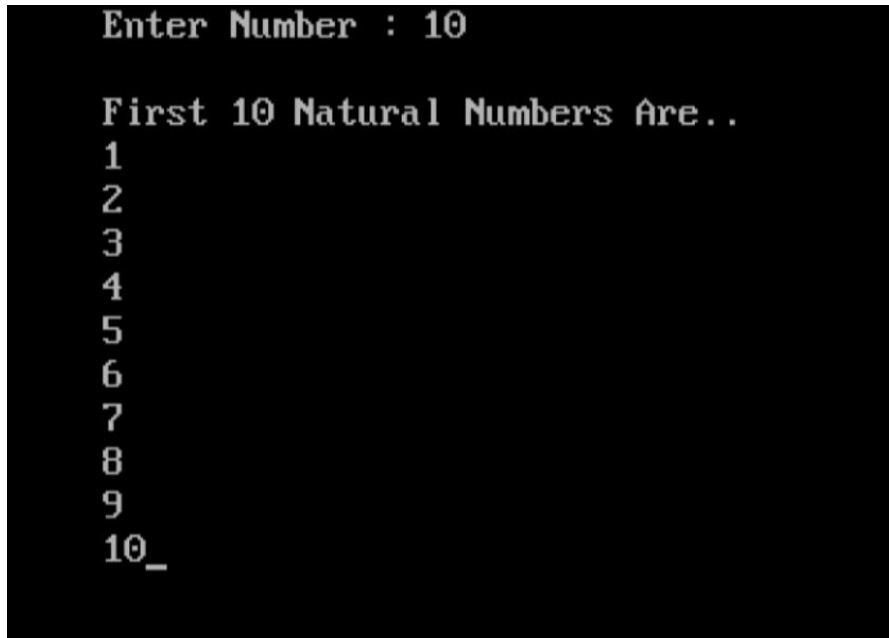
Answer:

➤ **Code:**



```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n,i;
    clrscr();
    printf("Enter Number : ");
    scanf("%d",&n);
    printf("\nFirst %d Natural Numbers Are.. ",n);
    for(i=1;i<=n;i++)
    {
        printf("%d",i);
    }
    getch();
}
```

➤ **Output:**



```
Enter Number : 10

First 10 Natural Numbers Are..
1
2
3
4
5
6
7
8
9
10_
```

Question 2: Write a Program To Display Arithmetic Operations Using Switch Case.

Answer:

➤ **Code:**

```
Q2.C
#include<stdio.h>
#include<conio.h>
void main()
{
    int n;
    int a,b;
    clrscr();
    printf("Select Arithmetic Operator: \n1 - Addition \n2 - Subtraction");
    printf("\n3 - Division \n4 - Multiplication \n5 - Modulus");
    printf("\nEnter Value : ");
    scanf("%d",&n);
    printf("\nEnter Value Of A = ");
    scanf("%d",&a);
    printf("\nEnter Value Of B = ");
    scanf("%d",&b);
    switch(n)
    {
        case 1:
            printf("\nAddition = %d",a+b);
            break;
        case 2:
            printf("\nSubtraction = %d",a-b);
            break;
        case 3:
            printf("\nDivision = %d",a/b);
            break;
        case 4:
            printf("\nMultiplication = %d",a*b);
            break;
        case 5:
            printf("\nModulus = %d",a%b);
            break;
    }
    getch();
}
```

➤ **Output:**

```
Select Arithmetic Operator:
1 - Addition
2 - Subtraction
3 - Division
4 - Multiplication
5 - Modulus
Enter Value : 4

Enter Value Of A = 4

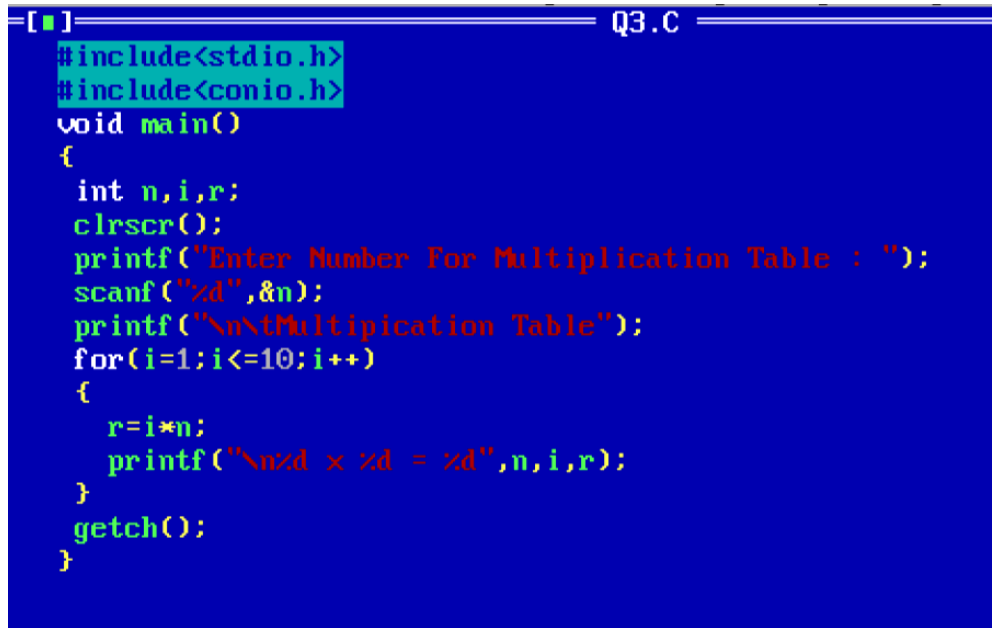
Enter Value Of B = 5

Multiplication = 20
```

Question 3: Write A Program To Show Multiplication Table Of A Given Number.

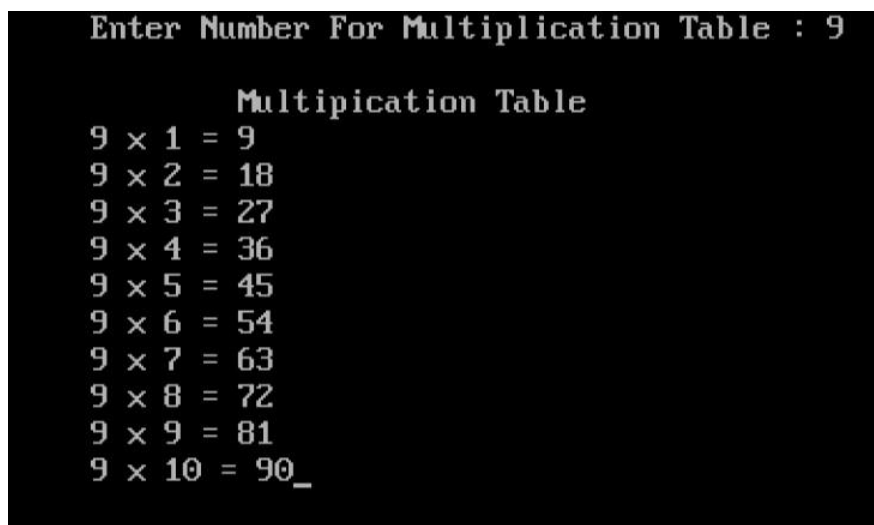
Answer:

➤ **Code:**



```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n,i,r;
    clrscr();
    printf("Enter Number For Multiplication Table : ");
    scanf("%d",&n);
    printf("\n\tMultiplication Table");
    for(i=1;i<=10;i++)
    {
        r=i*n;
        printf("\n%d × %d = %d",n,i,r);
    }
    getch();
}
```

➤ **Output:**



```
Enter Number For Multiplication Table : 9

      Multiplication Table
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_
```

Question 4: Write A Program To Show Swap Of Two Numbers Without Using Third Variable.

Answer:

➤ **Code:**

```
[ ] Q4.C
#include<stdio.h>
#include<conio.h>
void main()
{
    int a,b;
    clrscr();
    printf("Enter Value Of A : ");
    scanf("%d",&a);
    printf("\nEnter Value Of B : ");
    scanf("%d",&b);
    printf("\nBefore Swapping Value Of A = %d And B = %d",a,b);
    a=a+b; b=a-b; a=a-b;
    printf("\nAfter Swapping Value Of A = %d And B = %d",a,b);
    getch();
}
```

➤ **Output:**

```
Enter Value Of A : 12

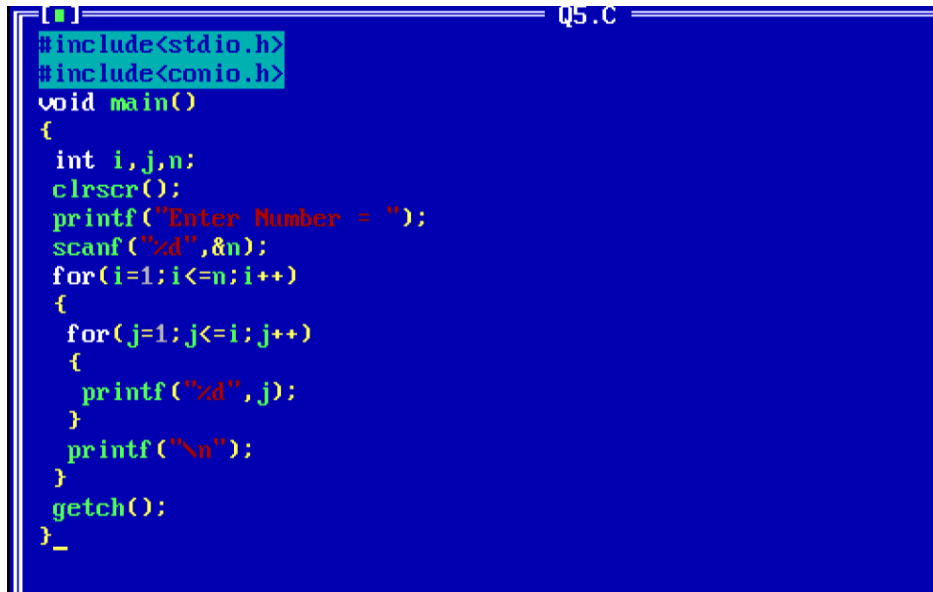
Enter Value Of B : 34

Before Swapping Value Of A = 12 And B = 34
After Swapping Value Of A = 34 And B = 12_
```

Question 5: Write A Program To Print Following Pattern: 1 12 123 1234...

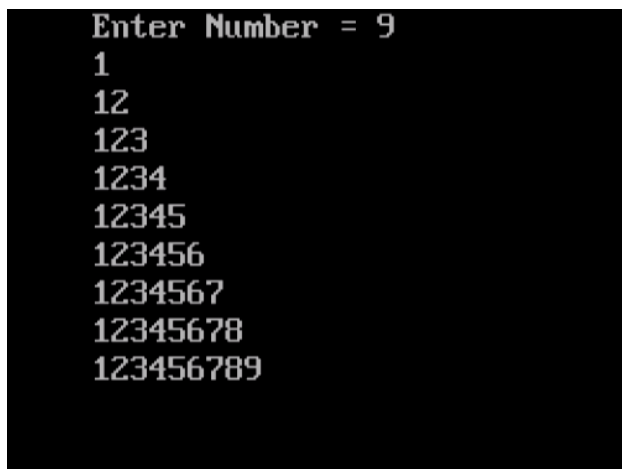
Answer:

➤ **Code :**



```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,n;
    clrscr();
    printf("Enter Number = ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d",j);
        }
        printf("\n");
    }
    getch();
}
```

➤ **Output :**



```
Enter Number = 9
1
12
123
1234
12345
123456
1234567
12345678
123456789
```

Question 6 : Write a program to print following string pattern; A AB ABA
ABAB...

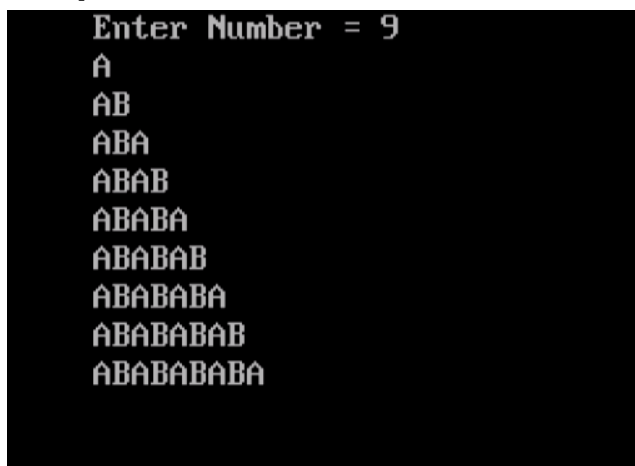
Answer :

➤ **Code :**



```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,j,n;
    clrscr();
    printf("Enter Number = ");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        for(j=1;j<=i;j++){
            if(j%2==1)
                { printf("A"); }
            else
                { printf("B"); }
        }
        printf("\n");
    }
    getch();
}
```

➤ **Output :**

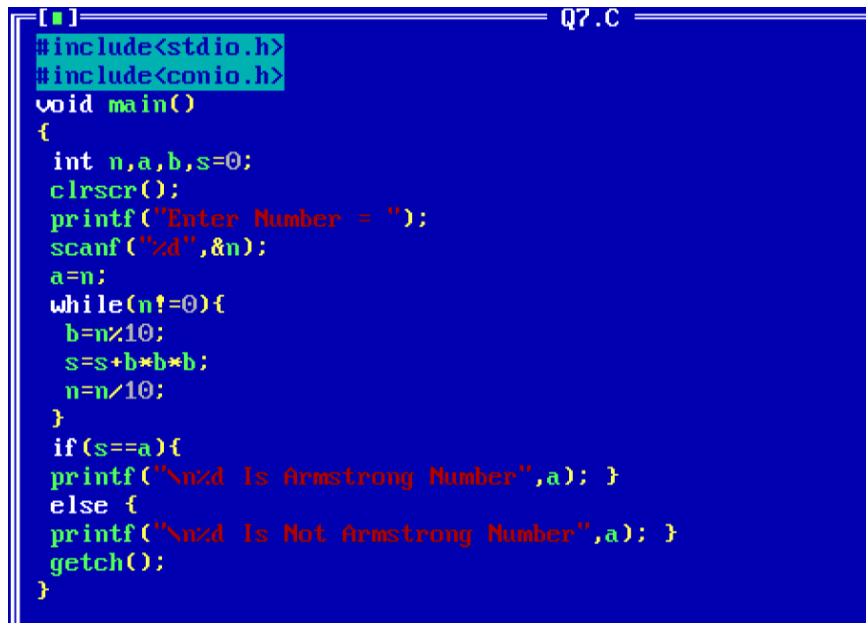


```
Enter Number = 9
A
AB
ABA
ABAB
ABABA
ABABAB
ABABABA
ABABABAB
ABABABABA
```

Question 7 : Write a program to check whether inputted number is Armstrong number or not.

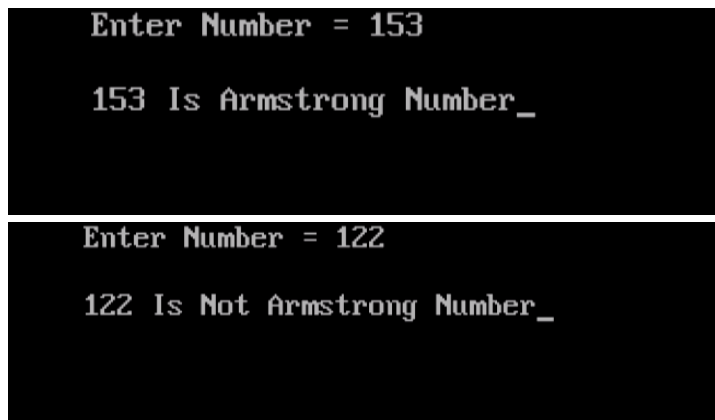
Answer :

➤ **Code :**

A screenshot of a C program in a code editor. The code is for a program named 'Q7.C' that checks if a number is an Armstrong number. It includes headers for stdio.h and conio.h. The main function takes an integer input 'n', calculates the sum of the cubes of its digits, and compares it to the original number. If they match, it prints 'Is Armstrong Number', otherwise it prints 'Is Not Armstrong Number'.

```
Q7.C
#include<stdio.h>
#include<conio.h>
void main()
{
    int n,a,b,s=0;
    clrscr();
    printf("Enter Number = ");
    scanf("%d",&n);
    a=n;
    while(n!=0){
        b=n%10;
        s=s+b*b*b;
        n=n/10;
    }
    if(s==a){
        printf("%d Is Armstrong Number",a); }
    else {
        printf("%d Is Not Armstrong Number",a); }
    getch();
}
```

➤ **Output :**

Two screenshots of the program's output. The first shows the input 153 and the output '153 Is Armstrong Number_'. The second shows the input 122 and the output '122 Is Not Armstrong Number_'.

```
Enter Number = 153

153 Is Armstrong Number_

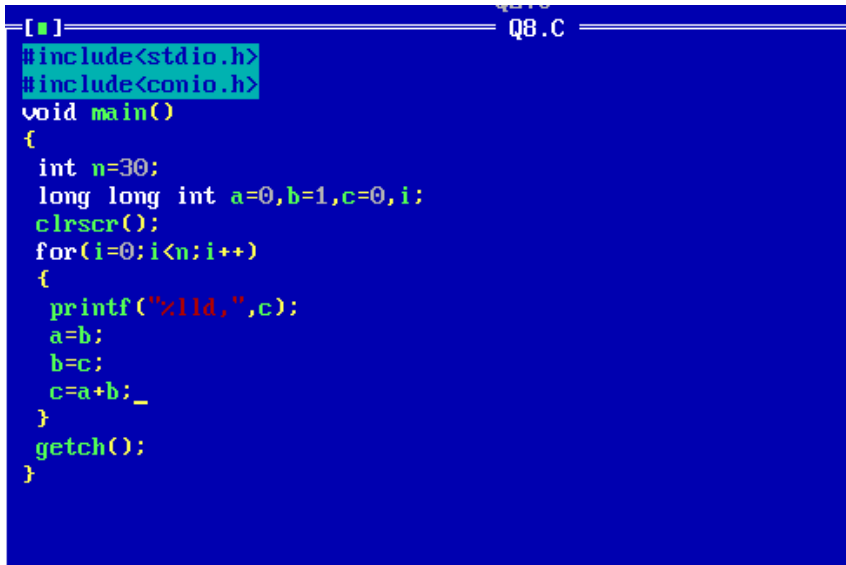
Enter Number = 122

122 Is Not Armstrong Number_
```

Question 8 : Program to print Fibonacci series up to 30.

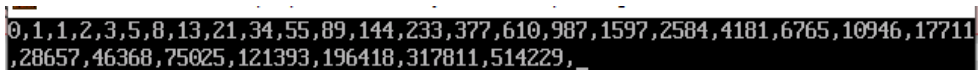
Answer :

➤ **Code :**

A screenshot of a C program in a code editor. The code is for a program to print the Fibonacci series up to 30. It includes headers for stdio.h and conio.h, and uses clrscr() and getch() for console interaction. The Fibonacci series is calculated using a loop and stored in a long long integer array.

```
Q8.C
#include<stdio.h>
#include<conio.h>
void main()
{
    int n=30;
    long long int a=0,b=1,c=0,i;
    clrscr();
    for(i=0;i<n;i++)
    {
        printf("%lld,",c);
        a=b;
        b=c;
        c=a+b;
    }
    getch();
}
```

➤ **Output :**

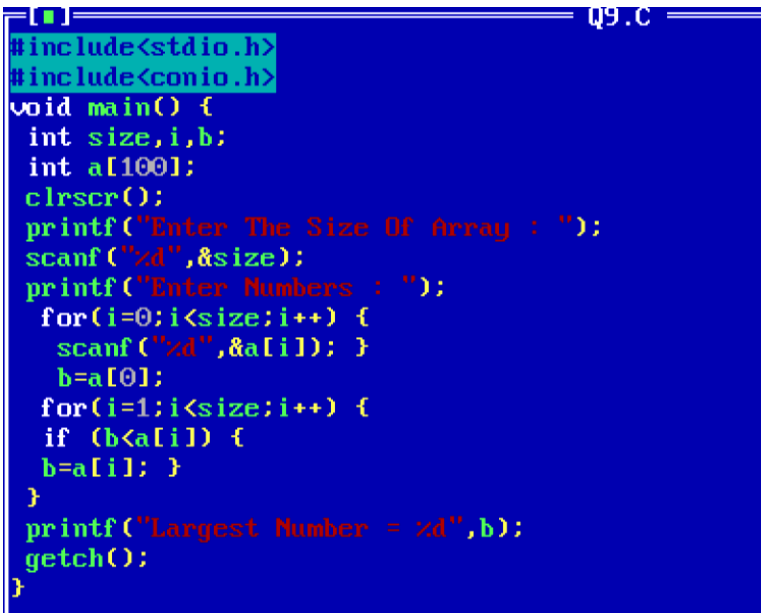
A screenshot of the output of the program, showing the first 30 terms of the Fibonacci series separated by commas. The output is displayed on a black background with white text.

```
0,1,1,2,3,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6765,10946,17711,
28657,46368,75025,121393,196418,317811,514229, _
```


Question 9 : Write a program to find maximum number in an array.

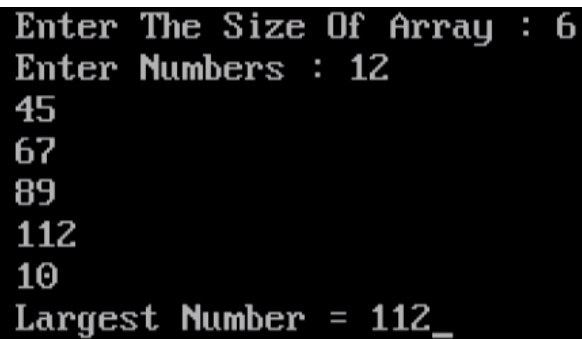
Answer :

➤ **Code :**

A screenshot of a C program in a text editor. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main() {
    int size,i,b;
    int a[100];
    clrscr();
    printf("Enter The Size Of Array : ");
    scanf("%d",&size);
    printf("Enter Numbers : ");
    for(i=0;i<size;i++) {
        scanf("%d",&a[i]); }
    b=a[0];
    for(i=1;i<size;i++) {
        if (b<a[i]) {
            b=a[i]; }
    }
    printf("Largest Number = %d",b);
    getch();
}
```

➤ **Output :**

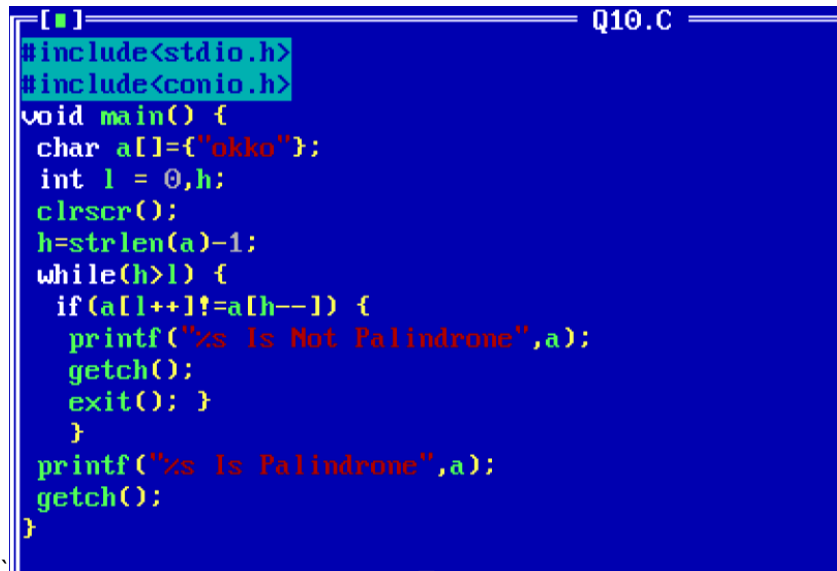
A screenshot of the program's output in a terminal window. The output is as follows:

```
Enter The Size Of Array : 6
Enter Numbers : 12
45
67
89
112
10
Largest Number = 112_
```

Question 10 : Write a program to check whether inputted string is palindrome or not.

Answer :

➤ **Code :**



```
#include<stdio.h>
#include<conio.h>
void main() {
    char a[]={"okko"};
    int l = 0,h;
    clrscr();
    h=strlen(a)-1;
    while(h>l) {
        if(a[l++]!=a[h--]) {
            printf("%s Is Not Palindrome",a);
            getch();
            exit(); }
        }
    printf("%s Is Palindrome",a);
    getch();
}
```

➤ **Output :**



okko Is Palindrome_

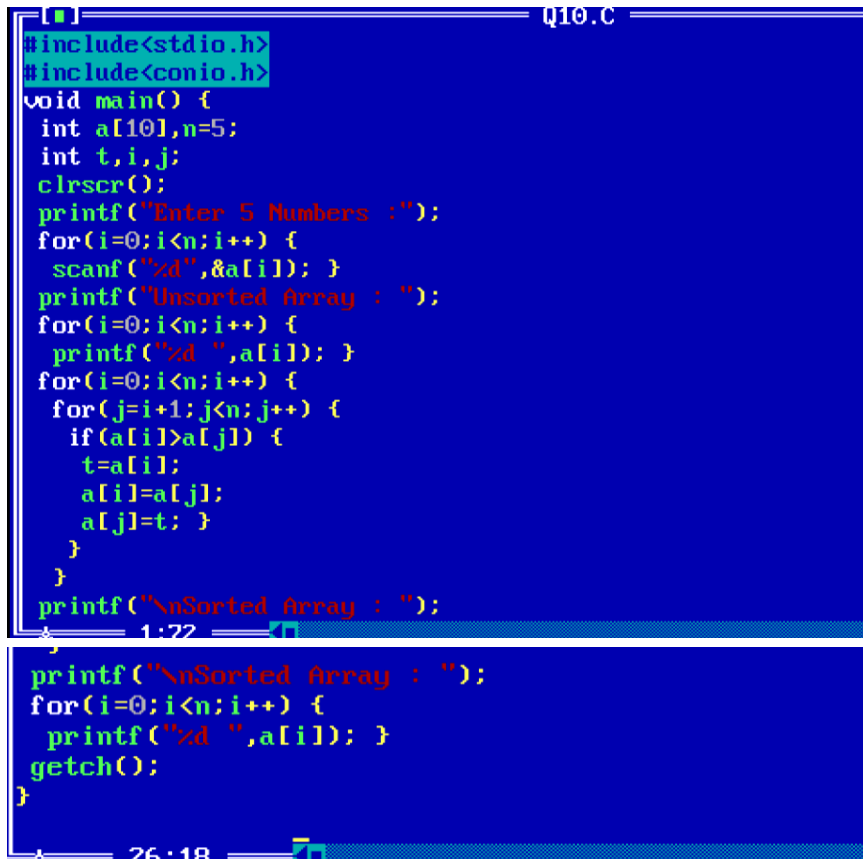


abcd Is Not Palindrome

Question II : Write a program to sort given array in ascending order.

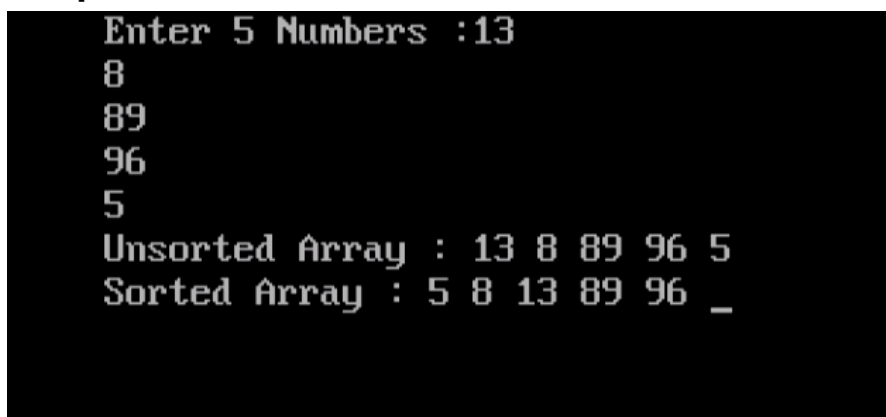
Answer :

➤ **Code :**



```
Q10.C
#include<stdio.h>
#include<conio.h>
void main() {
    int a[10],n=5;
    int t,i,j;
    clrscr();
    printf("Enter 5 Numbers :");
    for(i=0;i<n;i++) {
        scanf("%d",&a[i]); }
    printf("Unsorted Array : ");
    for(i=0;i<n;i++) {
        printf("%d ",a[i]); }
    for(i=0;i<n;i++) {
        for(j=i+1;j<n;j++) {
            if(a[i]>a[j]) {
                t=a[i];
                a[i]=a[j];
                a[j]=t; }
        }
    }
    printf("\nSorted Array : ");
    for(i=0;i<n;i++) {
        printf("%d ",a[i]); }
    getch();
}
```

➤ **Output :**



```
Enter 5 Numbers :13
8
89
96
5
Unsorted Array : 13 8 89 96 5
Sorted Array : 5 8 13 89 96 _
```

Question 12 : Write a program to count number of vowels, consonants, spaces and special characters in a given statement.

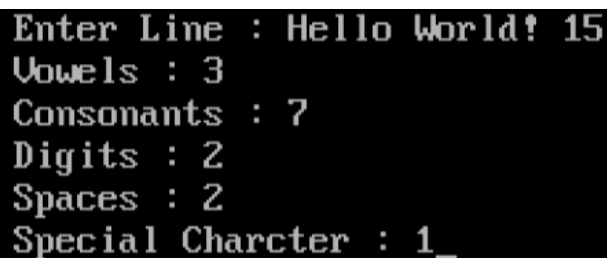
Answer :

➤ **Code :**



```
#include<stdio.h>
#include<conio.h>
void main() {
    char line[150];
    int v=0,c=0,d=0,s=0,sc=0,i;
    clrscr();
    printf("Enter Line  ");
    fgets(line,sizeof(line),stdin);
    for(i=0;line[i]!='\0';i++) {
        line[i]=tolower(line[i]);
        if(line[i]=='a' || line[i]=='e' || line[i]=='i' || line[i]=='o' || line[i]=='u')
        { v++; }
        else if((line[i]>='a' && line[i]<='z'))
        { c++; }
        else if(line[i]>='0' && line[i]<='9')
        { d++; }
        else if(line[i]==' ')
        { s++; }
        { s++; }
        else
        { sc++; }
    }
    printf("Vowels : %d\nConsonants : %d",v,c);
    printf("\nDigits : %d\nSpaces : %d\nSpecial Character : %d",d,s,sc);
    getch();
}
```

➤ **Output :**



```
Enter Line : Hello World! 15
Vowels : 3
Consonants : 7
Digits : 2
Spaces : 2
Special Character : 1_
```

Question 13 : Write a program to take string as input and search character, find occurrences of search character.

Answer :

➤ **Code :**

```
#include <stdio.h>
#include <conio.h>
void main()
{
    char s[100];
    char a;
    int i=0;
    clrscr();
    printf("Enter String: ");
    gets(s);
    printf("Enter Character to search: ");
    a=getchar();
    while(s[i]!='\0') {
        if(s[i] == a) {
            printf("'a' is found at index %d\n",a, i);
            i++;
        }
        getch();
    }
}
```

➤ **Output :**

```
Enter String: Student
Enter Character to search: t
't' is found at index 1
't' is found at index 6
```

Question 14 : Write a program to create, initialize, assign and access a pointer variable

Answer :

➤ **Code :**

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int num = 15;
    int *ptr;
    clrscr();
    ptr = &num;
    printf("The value of num is %d\n", num);
    printf("The value of pionter is %p\n", ptr);
    printf("The value pointed to by pointer is %d\n", *ptr);
    getch();
}
```

➤ **Output :**

```
The value of num is 15
The value of pionter is FFF4
The value pointed to by pointer is 15
_
```

Question 15 : Write a program to create, initialize, assign and access a pointer variable

Answer :

➤ **Code :**

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int x=20;
    int *p;
    clrscr();
    p=&x;
    printf("Before Changing Value Of X = %d",x);
    *p=15;
    printf("\nAfter Changing Value Of X = %d",x);
    getch();
}
```

➤ **Output :**

```
Before Changing Value Of X = 20
After Changing Value Of X = 15
```