



**Green University of Bangladesh**  
**Department of Computer Science and Engineering(CSE)**  
**Faculty of Sciences and Engineering**  
**Semester: (Summer, Year:2022), B.Sc. in CSE (Day)**

**LAB REPORT NO :10**

**Course Title: Structured Programming Lab**

**Course Code: CSE 104**

**Section: DE**

**Student Details**

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<b><u>Lab Report Status</u></b>	
<b>Marks: .....</b>	<b>Signature:.....</b>
<b>Comments:.....</b>	<b>Date:.....</b>

**Problem 01: Write a program in C to find the maximum and minimum element in an array using pointer**

**Code:**

```
1  #include<stdio.h>
2  int main()
3  {
4      int a[10],n,i,*p,max,min;
5      p=a;
6      printf("Enter the size of array :");
7      scanf("%d",&n);
8      printf("Enter the elements:\n");
9      for(i=0;i<n;i++)
10     {
11         scanf("%d", (p+i));
12     }
13     max=*p;
14     min=*p;
15     for(i=0;i<n;i++)
16     {
17         if (*(p+i)>max)
18         {
19             max=*(p+i);
20         }
21         if (*(p+i)<min)
22         {
23             min=*(p+i);
24         }
25     }
26     printf("Maximun =%d\nMinimum =%d",max,min);
27     return 0;
28 }
29
```

**Output:**

```
Enter the size of array :8
Enter the elements:
4564
54
5445
546
45
45
85
4
Maximun =5445
Minimum =4
Process returned 0 (0x0)   execution time : 12.069 s
Press any key to continue.
```

**Problem 02: Write a C program to convert Decimal to Binary number system pointer.**

**Code:**

```
1  #include<stdio.h>
2  #include<stdlib.h>
3  int main()
4  {
5  int *a[10],n,i;
6  system ("cls");
7  printf("Enter the decimal number: ");
8  scanf ("%d",&n);
9  for(i=0;n>0;i++)
10 {
11 a[i]=n%2;
12 n=n/2;
13 }
14 printf("In Binary number: =");
15 for(i=i-1;i>=0;i--)
16 {
17 printf("%d",a[i]);
18 }
19 return 0;
20 }
21
```

**Output:**

```
Enter the decimal number: 12
In Binary number: =1100
Process returned 0 (0x0)   execution time : 12.043 s
Press any key to continue.
```

**Problem 03: Write a C program to concatenate two strings using pointers.**

**Code:**

```
1  #include<stdio.h>
2  #include<stdlib.h>
3  int main()
4  {
5      int *a[10],n,i;
6      system ("cls");
7      printf("Enter the decimal number: ");
8      scanf ("%d",&n);
9      for (i=0;n>0;i++)
10     {
11         a[i]=n%2;
12         n=n/2;
13     }
14     printf("In Binary number: =");
15     for (i=i-1;i>=0;i--)
16     {
17         printf ("%d",a[i]);
18     }
19     return 0;
20 }
21
```

**Output:**

```
Enter the 1st string: Bangla
Enter the 2nd string: desh
concatenation : Bangladesh
Process returned 0 (0x0)   execution time : 11.087 s
Press any key to continue.
```

#### Problem 04: Write a C program to add two matrix using pointers.

Code:

```
1  #include <stdio.h>
2  #define r 3
3  #define c 3
4  int i,j;
5  void matrixInput(int mat[][c]);
6  void matrixPrint(int mat[][c]);
7  void matrixAdd(int mat1[][c], int mat2[][c], int res[][c]);
8  int main()
9  {
10     int mat1[r][c], mat2[r][c], res[r][c];
11     printf("Enter elements in 1st matrix for %d by %d: \n", r, c);
12     matrixInput(mat1);
13     printf("\nEnter elements in 2nd matrix for %d by %d: \n", r, c);
14     matrixInput(mat2);
15     matrixAdd(mat1, mat2, res);
16     printf("\nSum of 1st and 2nd matrix: \n");
17     matrixPrint(res);
18     return 0;
19 }
20 void matrixInput(int mat[][c])
21 {
22     int i,j;
23     for (i = 0; i < r; i++)
24     {
25         for(j=0;j<c;j++)
26         {
27             scanf("%d", (*(mat + i)+j));
28         }
29     }
30 }
31 void matrixPrint(int mat[][c])
32 {
33     for (i = 0; i < r; i++)
34     {
35         for (j = 0; j < c; j++)
36         {
37             printf("%d ", (*(mat + i) + j));
38         }
39         printf("\n");
40     }
41 }
42 void matrixAdd(int mat1[][c],int mat2[][c],int res[][c])
43 {
44     for (i=0;i<r;i++)
45     {
46         for(j=0;j<c;j++)
47         {
48             *(*(res+i)+j)=*(*(mat1+i)+j)+*(*(mat2+i)+j);
49         }
50     }
51 }
52 }
53
```

## Output:

```
Enter elements in 1st matrix for 3 by 3:
1
2
3
4
5
6
7
8
9

Enter elemetns in 2nd matrix for 3 by 3:
1
2
3
4
5
6
7
8
9

Sum of 1st and 2nd matrix:
2 4 6
8 10 12
14 16 18

Process returned 0 (0x0)   execution time : 14.332 s
Press any key to continue.
```