PRACTICAL 2(A)

A. Write a program using while loop to reverse the digits of a number:

⇒
```
#include <stdio.h>
int main ( )
{
int n, reverse = 0, remainder ;
printf ("Enter any integer");
scanf ("%d", &n);
while (n != 0)
{
remainder = n %. 10 ;
reverse = reverse *10+ remainder ;
n /= 10 ;
}
printf ("Reversed integer : %d", reverse);
return 0 ;
}
```

PRACTICAL 2(B)

B. Write a program to calculate the factorial of a given number.

⇒
```
#include <stdio.h>
int main()
{
 int i, fact=1, number;
printf("Enter any Integer: ");
scanf("%d", &number);
   for (i=1; i<=number; i++)
{
  fact=fact*i;
}
printf("Factorial of %d is: %d", number, fact);
 return 0;
}
```

PRACTICAL 2 (D)

C. Write a program to print the Fibonacci series:

⇒
```
#include <stdio.h>
int main ( )
{
int count, first_term = 0, second_term = 1, nextterm, i ;
printf ("Enter the number of terms : \n");
scanf ("%d", &count);

printf("First %d terms of Fibonacci series : \n", count);
for (i = 0; i < count ; i++)
{
  if (i <= 1)
    next_term = i;
  else
{
  next_term = first_term + second_term;
  first_term = second_term;
  second_term = next_term;
}
  printf ("%d \n", next term);
}
  return 0 ;
}
```

PRACTICAL 3(B)

B. Write a program in C program to print day name of week using switch case.

→
```
#include<stdio.h>
int main()
{
int week;
printf("Enter week number(1-7): ");
scanf("%d", &week);
switch(week)
{ case 1:
printf("Monday");
break;
case 2:
printf("Tuesday");
break;
case 3:
printf("Wednesday");
break;
case 4:
printf("Thursday");
break;
case 5:
printf("Friday");
break;
case 6;
printf("Saturday"); break;
```

```
    case 7:
printf("Sunday");
    break;

    default:
printf("Invalid input! Please enter week
    number between 1-7.");

}
return 0;
}
```

* Note: In this program, I have assumed "Monday" as the first day of week.

PRACTICAL 3(c)

c. Write a program to read three values from keyboard and print out the largest of them without using if statement :

→
```
#include <stdio.h>
int main( )
{
int num1, num2, num3;
printf ("Enter the number 1 = ");
scanf ("%d", &num1);
printf ("Enter the number 2 = ");
scanf ("%d", &num2);
printf("Enter the number 3 = ");
scanf ("%d", &num3);
{
 if (num1>num3)
{
 printf("\n Largest number = %d \n", num1);
}
else
{
printf("\n Largest number = %d \n", num3);
} }
else if (num2 > num3)
{
```

```
{
    printf("\n Largest number=%d \n", num2);
}
else
{
    printf("\n Largest number = %d \n", num3);
}
    return 0;
}
}
```

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PRACTICAL 4(A)

A. Write a program to print the pattern of esterisks as shown below:

→
```
#include <stdio.h>
int main()
{
  int i,j,row;
  printf("Enter the number of rows: ");
  scanf("%d",&rows);
  for(i=1;i<=rows;++i)
  {
     for(j=1;j<=i;++j)
     {
        printf("*");
     }
     printf("\n");
  }
  return 0;
}
```

PRACTICAL 4(B)

B. Write a program to print the pattern of asterisks as shown below:

→

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

PRACTICAL 4(C)

C. Write a program to print Floyd's Triangle:

→
```
#include<stdio.h>
int main( )
{
 int a,i,j,num=1;
 printf("Enter the number of rows: ");
 scanf("%d",&a);
 for(i=1;i<=a;i++)
{
   for(j=1;j<=i;j++)
{
   printf("%d",num++);
}
   printf("\n");
}
return 0;
}
```

PRACTICAL 5(A)

A. Write a program to print Area of square using function.

→
```
#include <stdio.h>
float area(float s)
{
  return(s*s);
}
int main( )
{
float s, a;
printf("Enter side of square:");
scanf("%f", &s);

a= area(s);
printf("AOS: %f\n", a);
return 0;
}
```

PRACTICAL 5(B)

B. Write a program using recursive function:

→

```
#include <stdio.h>
int fact(int);
int main()
{
 int n, f;
printf("Enter the number whose factorial you want
   to calculate?");
scanf("%d", &n);
f = fact(n);
 printf("factorial= %d", f);
}
int fact(int n)
{
 if(n==0) {
return 0;
} else if(n==1)
{
 return 1;
} else
{
 return n*fact(n-1);
}
}
```

PRACTICAL 5(C)

C. Write a program using to square root, abs() value using function.

→
```
#include <stdio.h>
#include <math.h>
int main()
{
int a, b;
printf("Enter any number: \n");
scanf("%d", &a);
b= sqrt(a);
printf("Square root is : %d\n", b);
b= abs(a);
printf("The value is : %d\n", b);
return 0;
}
```

PRACTICAL 5(D)

D. Write a program using goto statement:

→
```
#include <stdio.h>
int main()
{
int a = 10;
LOOP: do
{
if(a==15)
{
a = a+1;
goto LOOP;
}
printf("value of a: %d\n",a);
a++;
}
while (a<20);
return 0;
}
```

PRACTICAL 6 (B)

B. Write a program to read matrix of size M*N.

⇒
```
#include <stdio.h>
#include <conio.h>
void main()
{
int m,n,i,j,a[10][10];
clrscr();
printf("Enter the number of rows and columns: ");
scanf("%d %d",&m,&n);
for(i=0;i<=m-1;i++)
{
 for(j=0;j<=n-1;j++)
{
printf("Enter a value: ");
scanf("%d",&a[i][j]);
}
}
printf("The entered matrix is:\n");
for(i=0;i<=m-1;i++)
{
 for(j=0;j<=n-1;j++)
{
 printf("%d\t",a[i][j]);
}   printf("\n");
}  getch();
}
```

PRACTICAL 6 (C)

C. Write a program to sort the elements of array in ascending or descending order.

⇒

```
#include <stdio.h>
int main ()
{
  int a[100], n, i, j;
  printf ("Array size: ");
  scanf ("%d", &n);
  printf ("Elements: ");
  for (i=0; i<n; i++)
{
  scanf("%d", &a[i]);
}
for (int i=0; i<n; i++)
{   for (int j=0; j<n; j++)
{   if (a[j] > a[i])
{
  int tmp = a[i];
  a[i] = a[j];
  a[j] = tmp;
}  }
}
   printf("\n\n Ascending: ");
for (int i =0; i<n ; i++)
{
  printf("%d", a[i]);
}
```

```
    for(int j=0; j<n; j++)
{
 if (a[j]< a[i])
{   int tmp = a[i];
    a[i] = a[j];
    a[j] = tmp;
}   }
  }
printf("\n \n Descending: ");
for (int i = 0; i<n; i++)
{
 printf("%d ", a[i]);
}
 return 0;
}
```

PRACTICAL 7(B)

B. Write a program to find the given string is palindrome or not.

⟹
```
#include <stdio.h>
#include <conio.h>
#include <string.h>
int main() {
  char string1[20];
  int i, length;
  int flag = 0;
printf("Enter a String: ");
scanf("%s", string1);
  length = strlen(string1);
for(i=0; i<length; i++) {
     if(string1[i] != string1[length-i-1]) {
flag = 1;
     break; }
}
  if (flag) {
printf("%s is not a palindrome", string1);
}
 return 0;
}
```

PRACTICAL 7(C)

C. Write a program to using strlen(), strcmp() function.

⇒
```
#include <stdio.h>
#include<conio.h>
#include<string.h>
int main() {
  char a[20] = "Program";
  char b[20] = {'P','r','o','g','r','a','m','\0'};
int result;
  result = strlen(a);
printf("The length of string a %d", result);
   result= strcmp(a, b);
if (result = 1) {
    printf("The strings are identical:");
}
else {
printf("The string is not identical");
}
return 0;
}
```

PRACTICAL 8 (A)

A. Write a program to display the values using different data types and its address using pointer.

⇒
```
#include<stdio.h>
int main()
{
  float var, *ptr;
printf("Enter a number: \n");
scanf("%f", &var);

ptr = &var;
printf("Value of var = %f\n", *ptr);
printf("Address of var using pointer = %u\n", ptr);

return 0;
}
```

PRACTICAL 8 (B)

B. Write a program to perform addition and subtraction using pointer.

⇒
```
#include<stdio.h>
int main()
{
 int *ptr1, *ptr2;
 int num, sub;

 printf("\n Enter two number: ");
 scanf("%d %d", ptr1, ptr2);

 num = *ptr1 + *ptr2 ;
 sub = *ptr1 - ptr2 ;

 printf("Sum =%d", num);
 printf("Sub =%d", sub);

 return 0;
}
```

PRACTICAL 9(B)

B. Write a program to print the structure using
- Title
- Author
- Subject
- Book ID

⇒
```
#include<stdio.h>
#include<string.h>
Struct Books {
   char title[50];
   char author[50];
   char subject[100];
   int book_id;
};
   int main() {
Struct Books Book1;
Struct Books Book2;
Strcpy(Book1.title, "C Programming");
strcpy(Book1.author, "Noha Ali");
strcpy(Book1.subject, "C Programming Tutorial");
Book1.book_id = 6495407;

strcpy(Book2.title, "Telecom Billing");
strcpy(Book2.author, "Zara Ali");
strcpy(Book2.subject, "Telecom Billing Tutorial");
Book2.book_id = 6495700;

printf("Book 1 title: %s\n", Book1.title);
printf("Book 1 author: %s\n", Book1.author);
```

```
printf("Book 1 subject : %s\n", Book1.subject);
printf("Book 1 book_id : %d\n", Book1.book_id);

printf("Book 2 title: %s\n", Book2.title);
printf("Book 2 author : %s\n", Book2.author);
printf("Book 2 subject : %s\n", Book2.subject);
printf("Book 2 book_id : %d\n", Book2.book_id);

return 0;
}
```