PRATICAL FILE

OF

PROGRAMMING IN C

COURSE CODE-CSEG1041

SCHOOL OF COMPUTER SCIENCE

SUBMITTED BY:

NAME:*MANAN*

SAPID:*590028349*

COURSE: ***BSC CS***

SEMSTER:01

BATCH=01

ACADEMIC YEAR=2025-2026

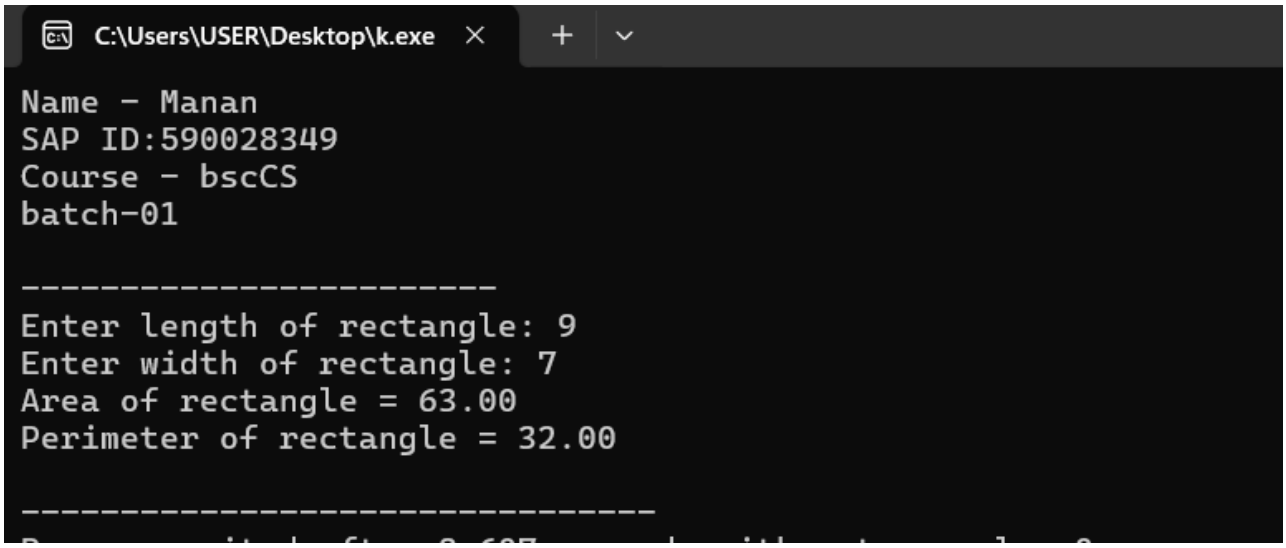
SUBMITTED TO:

//EXPERIMENT:02 OPERSTORS

//1. WAP a C program to calculate the area and perimeter of a rectangle based on its length and width.

```
#include <stdio.h>
#include <math.h>                // for pow() function
int main() {
printf("Name - Manan\n");
printf("SAP ID:590028349\n");
printf("Course - bscCS\n");
printf("batch-01\n");
printf("\n~~~~~~~~~~~~~~~~~~~\n");
 float length, width, area, perimeter;
 printf("Enter length of rectangle: ");
    scanf("%f", &length);
  printf("Enter width of rectangle: ");
    scanf("%f", &width);
area = length * width;
    perimeter = 2 * (length + width);
  printf("Area of rectangle = %.2f\n", area);
    printf("Perimeter of rectangle = %.2f\n", perimeter);
 return 0;
}
```

OUTPUT:


C:\Users\USER\Desktop\k.exe
Name - Manan
SAP ID:590028349
Course - bscCS
batch-01
Enter length of rectangle: 9
Enter width of rectangle: 7
Area of rectangle = 63.00
Perimeter of rectangle = 32.00

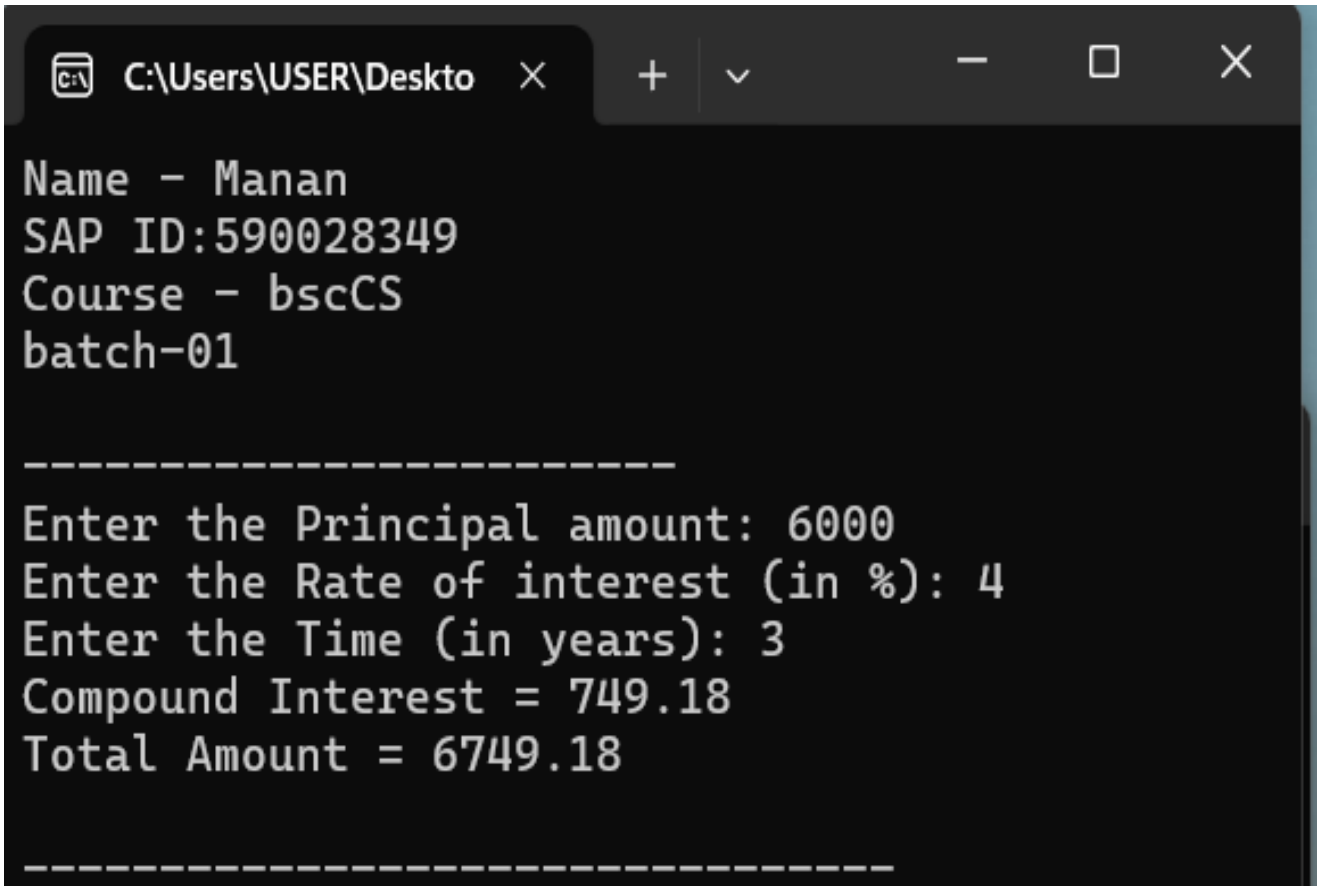
//2. WAP a C program to Convert temperature from Celsius to Fahrenheit using the formula: F = (C * 9/5) + 32.

```
#include <stdio.h>
int main() {
printf("Name - manan\n");
printf("SAP ID:590028349\n");
printf("Course - bscCS\n");
printf("batch-01\n");
printf("\n----------------------\n");
    float celsius, fahrenheit;
 printf("Enter temperature in Celsius: ");
    scanf("%f", &celsius);
 fahrenheit = (celsius * 9 / 5) + 32;
 printf("Temperature in Fahrenheit = %.2f\n", fahrenheit);
 return 0;
}
```

OUTPUT:

```
//3. Program to Calculate Compound Interest
#include <stdio.h>
#include <math.h>        // for pow() function
int main() {
printf("Name - Manan\n");
printf("SAP ID:590028349\n");
printf("Course - bscCS\n");
printf("batch-01\n");
printf("\n----------\n");
  double principal, rate, time, compoundInterest, amount;
   printf("Enter the Principal amount: ");
    scanf("%lf", &principal);
  printf("Enter the Rate of interest (in %%): ");
    scanf("%lf", &rate);
  printf("Enter the Time (in years): ");
    scanf("%lf", &time);
 amount = principal * pow((1 + rate / 100), time);
    compoundInterest = amount - principal;
 printf("Compound Interest = %.2lf\n", compoundInterest);
    printf("Total Amount = %.2lf\n", amount);
  return 0;
}
```

OUTPUT:


C:\Users\USER\Deskto
Name - Manan
SAP ID:590028349
Course - bscCS
batch-01
Enter the Principal amount: 6000
Enter the Rate of interest (in %): 4
Enter the Time (in years): 3
Compound Interest = 749.18
Total Amount = 6749.18

```
//4. Program to Find Roots of a Quadratic Equation
#include <stdio.h>
#include <math.h>
int main()
{
printf("Name - Manan\n");
printf("SAP ID:590028349\n");
printf("Course - bscCS\n");
printf("batch-01\n");
printf("\n----------\n");
 float a, b, c, discriminant, root1, root2, realPart, imagPart;
 printf("Enter coefficients a, b and c: ");
    scanf("%f %f %f", &a, &b, &c);
discriminant = b * b - 4 * a * c;
    if (discriminant > 0) {
        root1 = (-b + sqrt(discriminant)) / (2 * a);
        root2 = (-b - sqrt(discriminant)) / (2 * a);
        printf("Roots are real and different.\n");
        printf("Root1 = %.2f and Root2 = %.2f\n", root1, root2);
    }
    else if (discriminant == 0) {
        root1 = -b / (2 * a);
```

```
        printf("Roots are real and equal.\n");
 printf("Root1 = Root2 = %.2f\n", root1);
    }
    else {
        realPart = -b / (2 * a);
        imagPart = sqrt(-discriminant) / (2 * a);
        printf("Roots are complex and different.\n");
        printf("Root1 = %.2f + %.2fi and Root2 = %.2f -
%.2fi\n", realPart, imagPart, realPart, imagPart);
    }
   return 0;
}
```

OUTPUT: