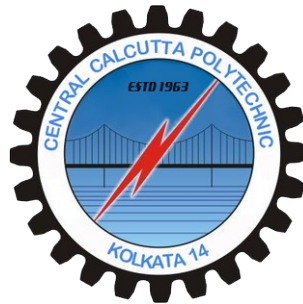


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No: 10005537

Subject: Programming in C

Year: 2nd

2020-21

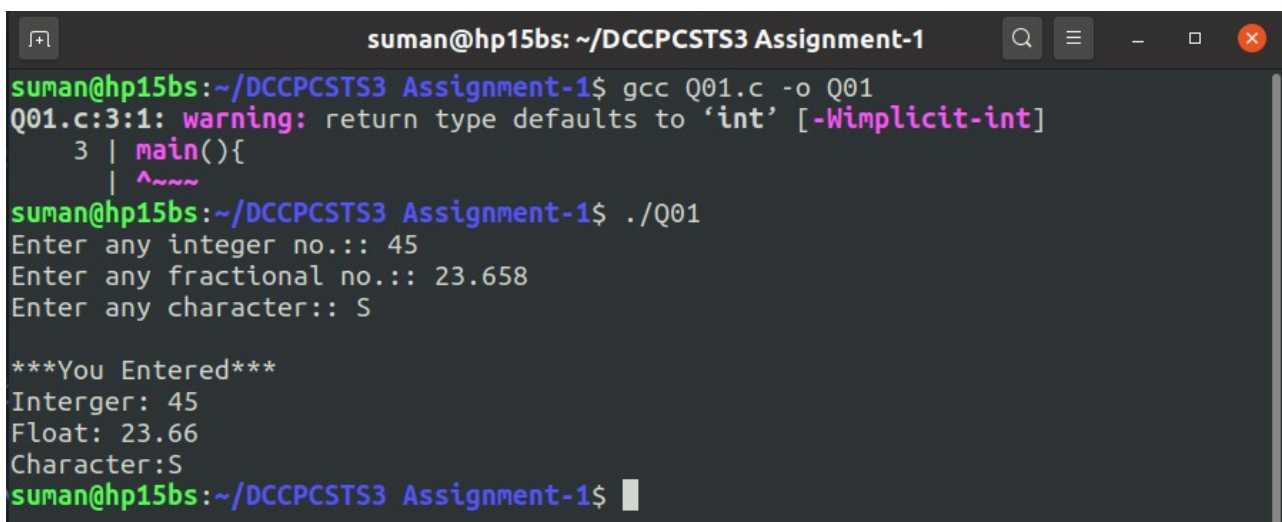
INDEX

Serial Number	Program Name	Page No.	Teacher Sign.
Assignment-1			
1	C program to perform input/output of all basic data types	4	
2	C program to enter two numbers and find their sum	5	
3	C program to enter two numbers and perform all arithmetic operations	6	
4	C program to enter length and breadth of a rectangle and find its perimeter	7	
5	C program to enter length and breadth of a rectangle and find its area	8	
6	C program to enter radius of a circle and find its diameter, circumference and area	9	
7	C program to enter length in centimeter and convert it into meter and kilometer	10	
8	C program to enter temperature in celsius and convert it into Fahrenheit	11	
9	C Program to enter temperature in fahrenheit and convert to celsius	12	
10	C program to convert days into years, weeks and days	13	
11	C program to find power of any number x^y	14	
12	C program to enter any number and calculate its square root	15	
13	C program to enter two angles of a triangle and find the third angle	16	

14	C program to enter base and height of a triangle and find its area	17	
15	C program to calculate area of an equilateral triangle	18	
16	C program to enter marks of five subjects and calculate total, average and percentage	19	
17	C program to enter P,T,R and calculate simple interest	20	
18	C program to enter P,T,R,n and calculate compound interest	21	

Assignment-1**Q01. Write a C program to perform input/output of all basic data types.**Program Code:

```
#include<stdio.h>
main(){
    int x;
    float y;
    char z;
    printf("Enter any integer no.:: ");
    scanf("%d",&x);
    printf("Enter any fractional no.:: ");
    scanf("%f",&y);
    printf("Enter any character:: ");
    scanf(" %c",&z); //Space for clearing buffer
    printf("\n***You Entered***\n");
    printf("Integer: %d\nFloat: %0.2f\n\nCharacter:%c\n",x,y,z);
}
```

Program Output:

```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q01.c -o Q01
Q01.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q01
Enter any integer no.:: 45
Enter any fractional no.:: 23.658
Enter any character:: S

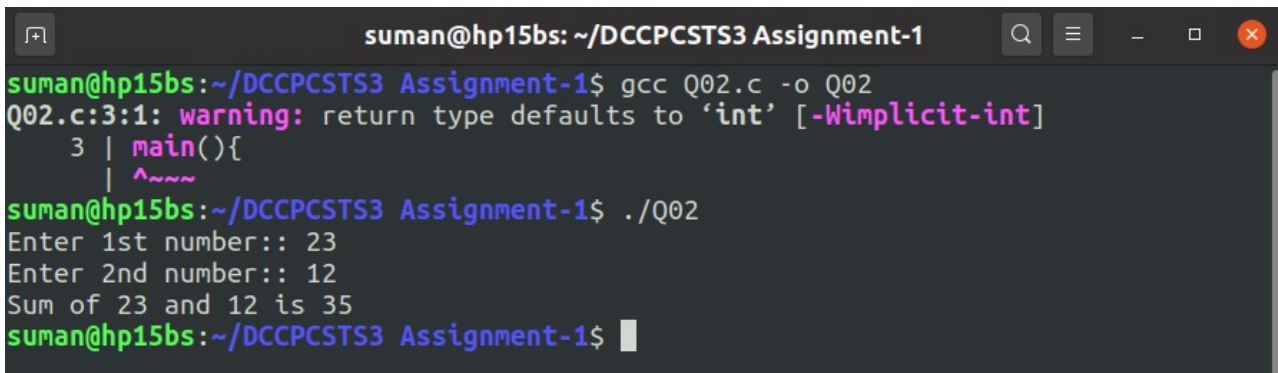
***You Entered***
Integer: 45
Float: 23.66
Character:S
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q02. Write a C program to enter two numbers and find their sum.

Program Code:

```
#include<stdio.h>
main(){
    int x,y,sum;
    printf("Enter 1st number:: ");
    scanf("%d",&x);
    printf("Enter 2nd number:: ");
    scanf("%d",&y);
    sum=x+y;
    printf("Sum of %d and %d is %d\n",x,y,sum);
}
```

Program Output:



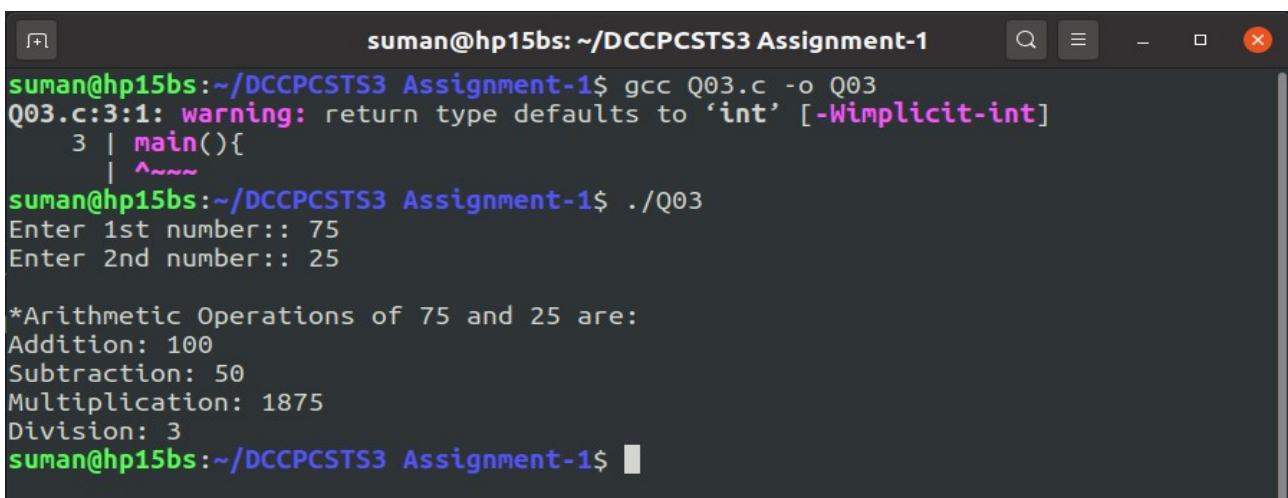
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q02.c -o Q02
Q02.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q02
Enter 1st number:: 23
Enter 2nd number:: 12
Sum of 23 and 12 is 35
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q03. Write a C program to enter two numbers and perform all arithmetic operations.

Program Code:

```
#include<stdio.h>
main(){
    int x,y;
    int sum,sub,mul,div;
    printf("Enter 1st number:: ");
    scanf("%d",&x);
    printf("Enter 2nd number:: ");
    scanf("%d",&y);
    sum = x+y;
    sub = x-y;
    mul = x*y;
    div = x/y;
    printf("\n*Arithmetic Operations of %d and %d
are:",x,y);
    printf("\nAddition: %d\nSubtraction: %d\
nMultiplication: %d\nDivision: %d\
n",sum,sub,mul,div);
}
```

Program Output:



```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q03.c -o Q03
Q03.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
   3 |   main(){
     |   ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q03
Enter 1st number:: 75
Enter 2nd number:: 25

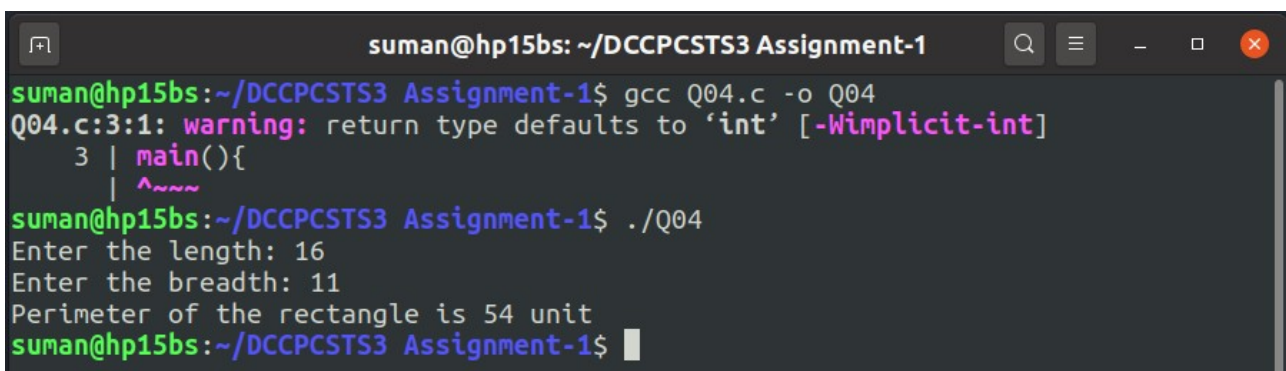
*Arithmetic Operations of 75 and 25 are:
Addition: 100
Subtraction: 50
Multiplication: 1875
Division: 3
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q04. Write a C program to enter length and breadth of a rectangle and find its perimeter.

Program Code:

```
#include<stdio.h>
main(){
    int lngt,brdt,peri;
    printf("Enter the length: ");
    scanf("%d",&lngt);
    printf("Enter the breadth: ");
    scanf("%d",&brdt);
    peri = 2*(lngt+brdt);
    printf("Perimeter of the rectangle is %d
unit\n",peri);
}
```

Program Output:



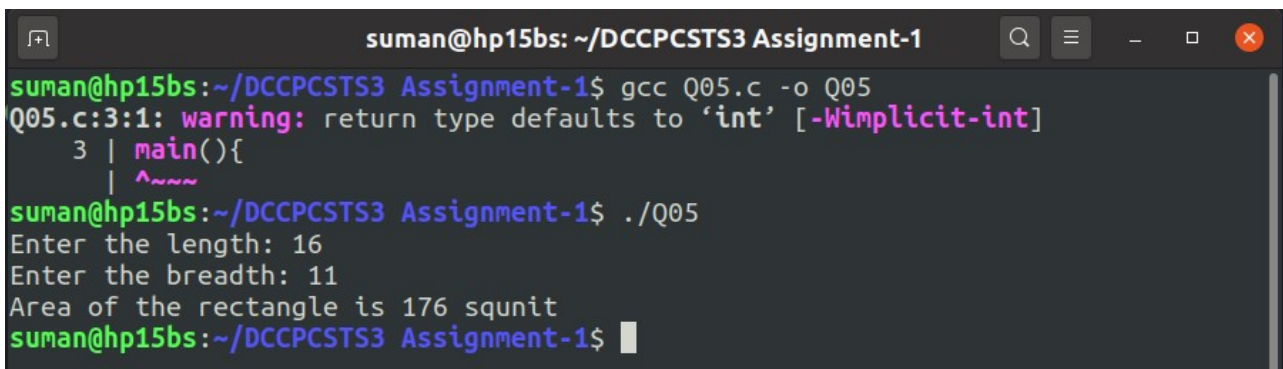
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q04.c -o Q04
Q04.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
    3 | main(){
      | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q04
Enter the length: 16
Enter the breadth: 11
Perimeter of the rectangle is 54 unit
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q05. Write a C program to enter length and breadth of a rectangle and find its area.

Program Code:

```
#include<stdio.h>
main(){
    int lngt,brdt,area;
    printf("Enter the length: ");
    scanf("%d",&lngt);
    printf("Enter the breadth: ");
    scanf("%d",&brdt);
    area = lngt*brdt;
    printf("Area of the rectangle is %d squnit\n",area);
}
```

Program Output:



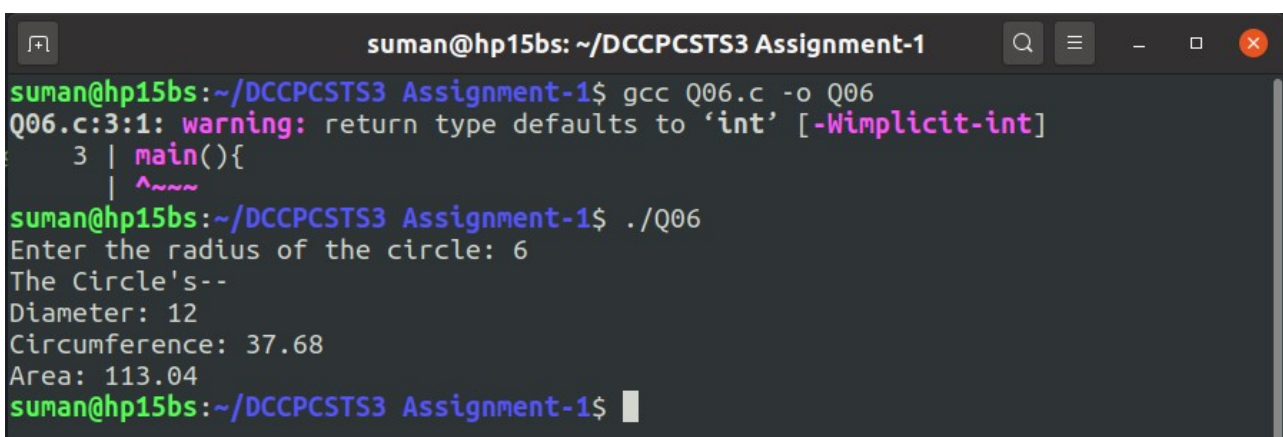
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q05.c -o Q05
Q05.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q05
Enter the length: 16
Enter the breadth: 11
Area of the rectangle is 176 squnit
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```


Q06. Write a C program to enter radius of a circle and find its diameter, circumference and area.

Program Code:

```
#include<stdio.h>
main(){
    int radi,dia;
    float pi=3.14,circ,area;
    printf("Enter the radius of the circle: ");
    scanf("%d",&radi);
    dia= 2*radi;
    circ= pi*dia;
    area= pi*radi*radi;
    printf("The Circle's--\nDiameter: %d\nCircumference: %0.2f\nArea: %0.2f\n",dia,circ,area);
}
```

Program Output:



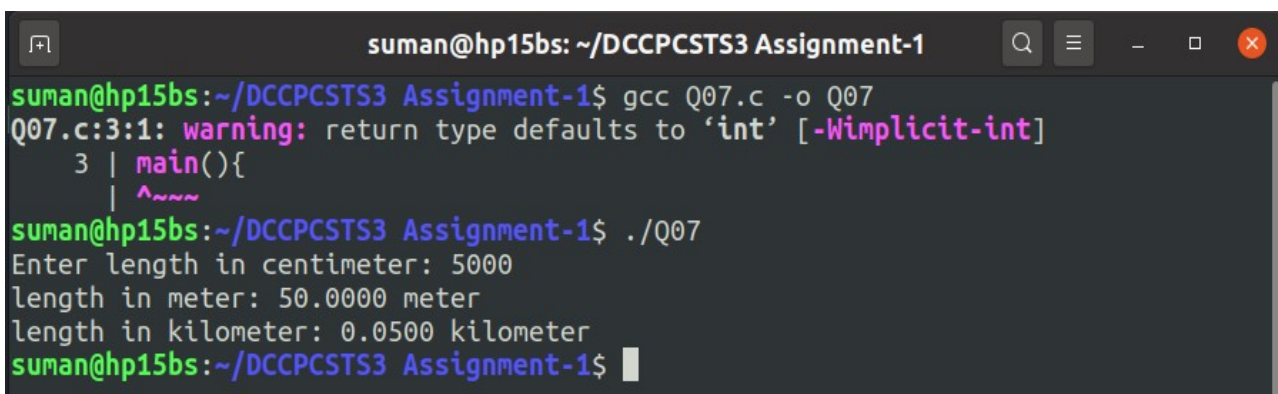
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q06.c -o Q06
Q06.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
3 | main(){
  | ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q06
Enter the radius of the circle: 6
The Circle's--
Diameter: 12
Circumference: 37.68
Area: 113.04
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q07. Write a C program to enter length in centimeter and convert it into meter and kilometer.

Program Code:

```
#include<stdio.h>
main(){
    float cemi,meter,kilo;
    printf("Enter length in centimeter: ");
    scanf("%f",&cemi);
    meter = (float)cemi/100;
    kilo = (float)cemi/100000;
    printf("length in meter: %.4f meter\n",meter);
    printf("length in kilometer: %.4f kilometer\n",kilo);
}
```

Program Output:



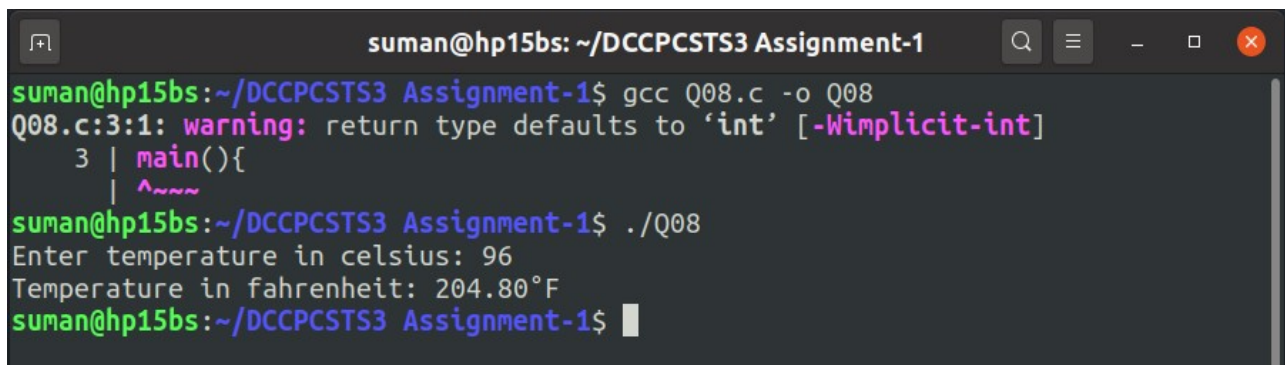
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q07.c -o Q07
Q07.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
   3 | main(){
     | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q07
Enter length in centimeter: 5000
length in meter: 50.0000 meter
length in kilometer: 0.0500 kilometer
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q08. Write a C program to enter temperature in celsius and convert it into Fahrenheit.

Program Code:

```
#include<stdio.h>
main(){
    float cel,farh;
    printf("Enter temperature in celsius: ");
    scanf("%f",&cel);
    farh =(9*cel+160)/5;
    printf("Temperature in fahrenheit: %.2f°F\n",farh);
}
```

Program Output:



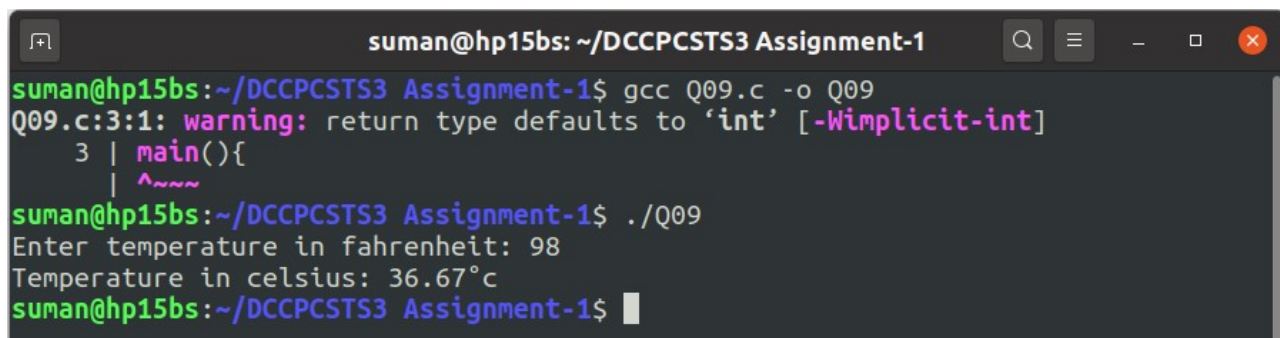
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q08.c -o Q08
Q08.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q08
Enter temperature in celsius: 96
Temperature in fahrenheit: 204.80°F
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q09. Write a C Program to enter temperature in fahrenheit and convert to celsius.

Program Code:

```
#include<stdio.h>
main(){
    float cel,farh;
    printf("Enter temperature in fahrenheit: ");
    scanf("%f",&farh);
    cel =(5*farh-160)/9;
    printf("Temperature in celsius: %.2f°c\n",cel);
}
```

Program Output:



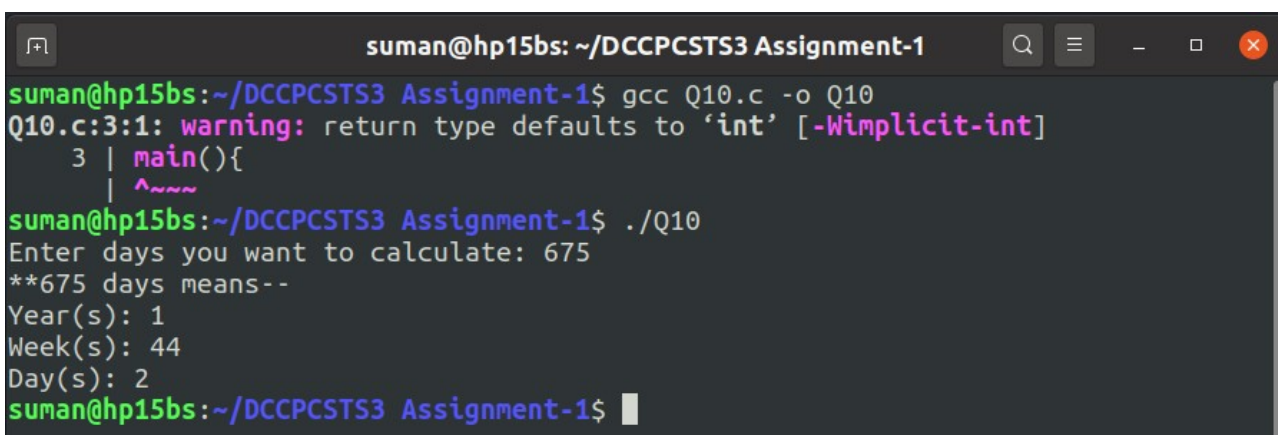
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q09.c -o Q09
Q09.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q09
Enter temperature in fahrenheit: 98
Temperature in celsius: 36.67°c
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q10. Write a C program to convert days into years, weeks and days.

Program Code:

```
#include<stdio.h>
main(){
    int day;
    int year,week;
    int tem;
    printf("Enter days you want to calculate: ");
    scanf("%d",&day);
    tem=day;
    year=day/365;
    day=day%365;
    week=day/7;
    day=day%7;
    printf("**%d days means--\n",tem);
    printf("Year(s): %d\nWeek(s): %d\nDay(s): %d\n",year,week,day);
}
```

Program Output:



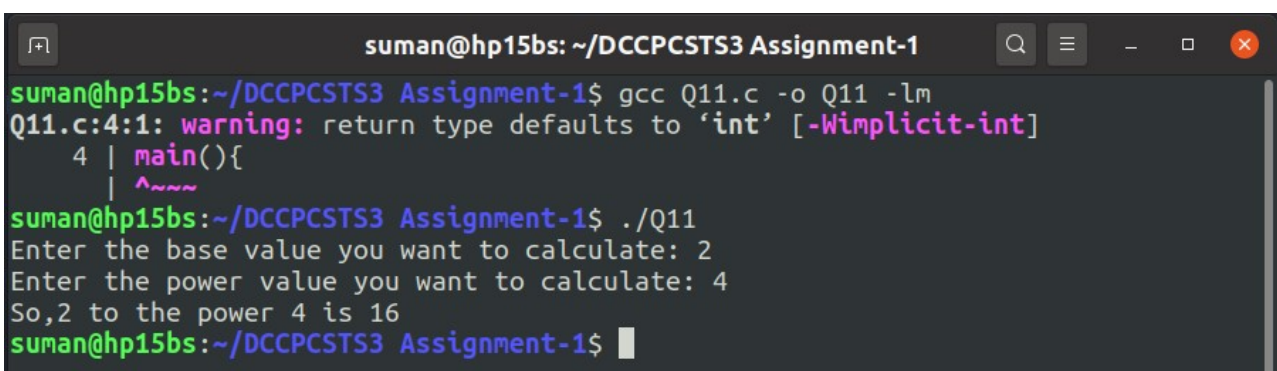
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q10.c -o Q10
Q10.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
   3 | main(){
     | ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q10
Enter days you want to calculate: 675
**675 days means--
Year(s): 1
Week(s): 44
Day(s): 2
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q11. Write a C program to find power of any number x^y .

Program Code:

```
#include<stdio.h>
#include<math.h>
main(){
    int x,y,power;
    printf("Enter the base value you want to
calculate: ");
    scanf("%d",&x);
    printf("Enter the power value you want to
calculate: ");
    scanf("%d",&y);
    power=pow(x,y);
    printf("So,%d to the power %d is %d\n",x,y,power);
}
```

Program Output:



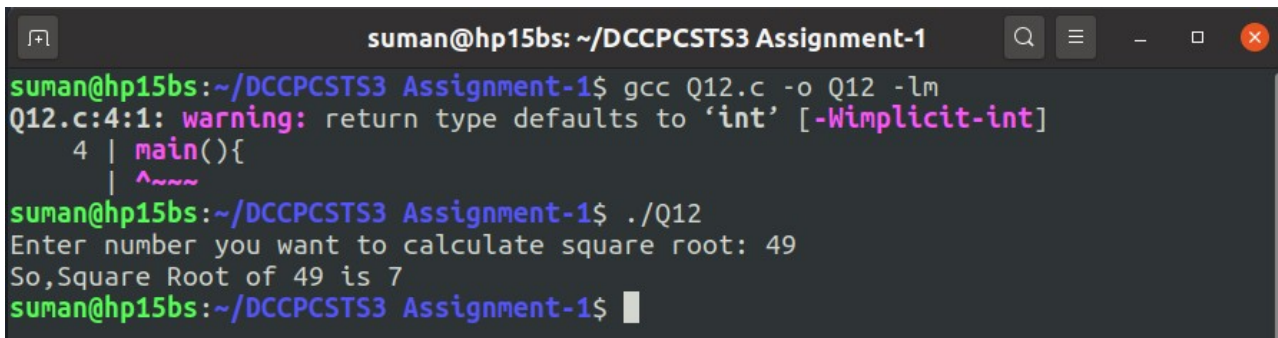
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q11.c -o Q11 -lm
Q11.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
4 | main(){
  | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q11
Enter the base value you want to calculate: 2
Enter the power value you want to calculate: 4
So,2 to the power 4 is 16
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q12. Write a C program to enter any number and calculate its square root.

Program Code:

```
#include<stdio.h>
#include<math.h>
main(){
    int num,sqrt;
    printf("Enter number you want to calculate
square root: ");
    scanf("%d",&num);
    sqrt=sqrt(num);
    printf("So,Square Root of %d is %d\n",num,sqrt);
}
```

Program Output:



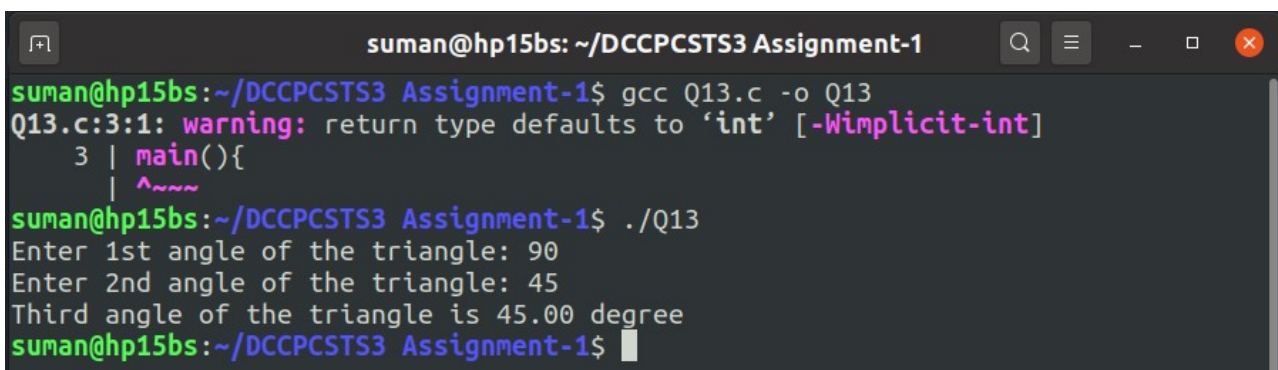
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q12.c -o Q12 -lm
Q12.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
4 | main(){
  | ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q12
Enter number you want to calculate square root: 49
So,Square Root of 49 is 7
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q13. Write a C program to enter two angles of a triangle and find the third angle.

Program Code:

```
#include<stdio.h>
main(){
    float ang1,ang2,ang3;
    printf("Enter 1st angle of the triangle: ");
    scanf("%f",&ang1);
    printf("Enter 2nd angle of the triangle: ");
    scanf("%f",&ang2);
    ang3=180-(ang1+ang2);
    printf("Third angle of the triangle is %.2f
degree\n",ang3);
}
```

Program Output:



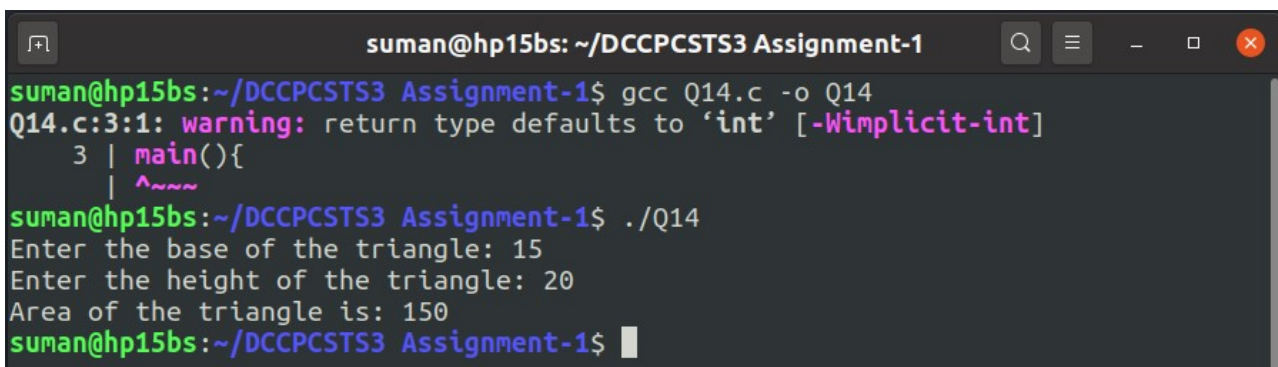
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q13.c -o Q13
Q13.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
   3 | main(){
     | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q13
Enter 1st angle of the triangle: 90
Enter 2nd angle of the triangle: 45
Third angle of the triangle is 45.00 degree
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```


Q14. Write a C program to enter base and height of a triangle and find its area.

Program Code:

```
#include<stdio.h>
main(){
    int base,hgt,area;
    printf("Enter the base of the triangle: ");
    scanf("%d",&base);
    printf("Enter the height of the triangle: ");
    scanf("%d",&hgt);
    area=(base*hgt)/2;
    printf("Area of the triangle is: %d\n",area);
}
```

Program Output:



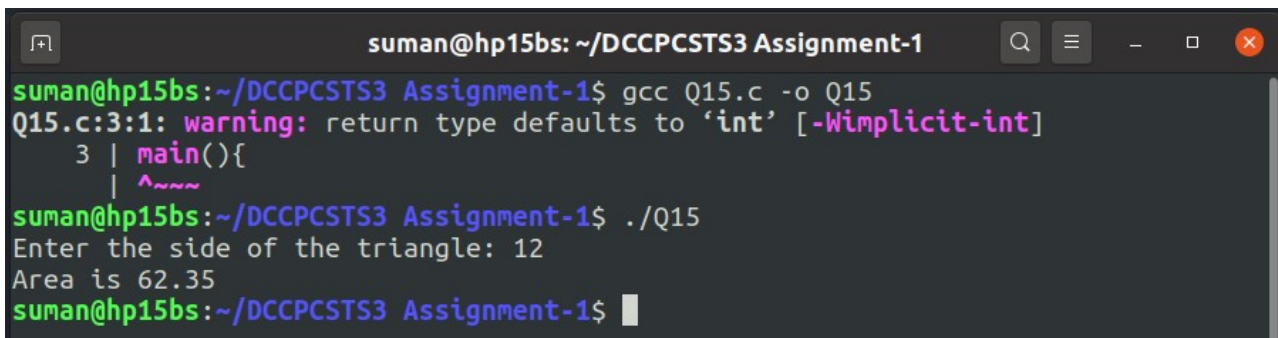
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q14.c -o Q14
Q14.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q14
Enter the base of the triangle: 15
Enter the height of the triangle: 20
Area of the triangle is: 150
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q15. Write a C program to calculate area of an equilateral triangle.

Program Code:

```
#include<stdio.h>
main(){
    int side;
    float area;
    printf("Enter the side of the triangle: ");
    scanf("%d",&side);
    area=0.433*(side*side); //sqr root(3)/4=0.433
    printf("Area is %.2f\n",area);
}
```

Program Output:



```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q15.c -o Q15
Q15.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q15
Enter the side of the triangle: 12
Area is 62.35
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q16. Write a C program to enter marks of five subjects and calculate total, average and percentage.

Program Code:

```
#include<stdio.h>
main(){
    int ben,eng,math,phy,coms;
    int total;
    float avg,prcn;
    printf("Enter marks of Bengali: ");
    scanf("%d",&ben);
    printf("Enter marks of English: ");
    scanf("%d",&eng);
    printf("Enter marks of Math: ");
    scanf("%d",&math);
    printf("Enter marks of Physics: ");
    scanf("%d",&phy);
    printf("Enter marks of Computer Science: ");
    scanf("%d",&coms);
    total=ben+eng+math+phy+coms;
    avg=total/5;
    prcn=total*0.2;
    printf("-----\n");
    printf("Total: %d\nAverage: %.2f\nPercentage:
%.2f\n",total,avg,prcn);
}
```

Program Output:

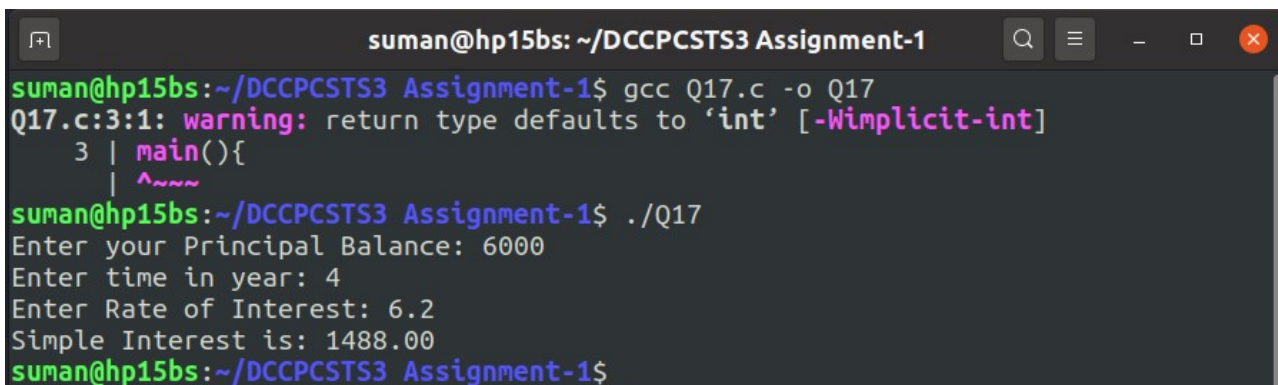
```
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q16.c -o Q16
Q16.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q16
Enter marks of Bengali: 78
Enter marks of English: 82
Enter marks of Math: 76
Enter marks of Physics: 75
Enter marks of Computer Science: 85
-----
Total: 396
Average: 79.00
Percentage: 79.20
```

Q17. Write a C program to enter P,T,R and calculate simple interest.

Program Code:

```
#include<stdio.h>
main(){
    int prin,time;
    float rate,si;
    printf("Enter your Principal Balance: ");
    scanf("%d",&prin);
    printf("Enter time in year: ");
    scanf("%d",&time);
    printf("Enter Rate of Interest: ");
    scanf("%f",&rate);
    si=(prin*time*rate)/100.0;
    printf("Simple Interest is: %.2f\n",si);
}
```

Program Output:



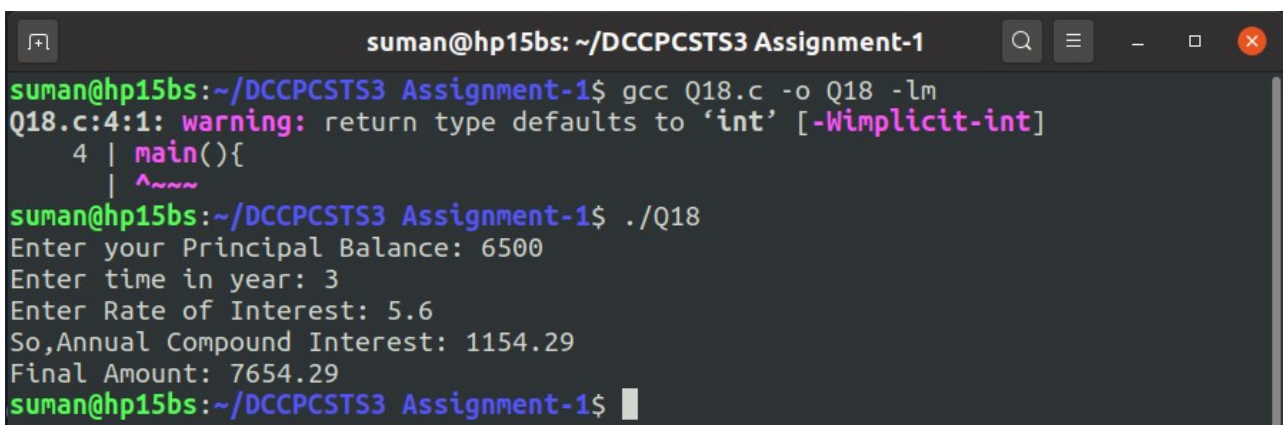
```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q17.c -o Q17
Q17.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(){
    | ^~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q17
Enter your Principal Balance: 6000
Enter time in year: 4
Enter Rate of Interest: 6.2
Simple Interest is: 1488.00
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

Q18. Write a C program to enter P,T,R and calculate compound interest.

Program Code:

```
#include<stdio.h>
#include<math.h>
main(){
    int prin,time;
    float rate,fa,ci;
    printf("Enter your Principal Balance: ");
    scanf("%d",&prin);
    printf("Enter time in year: ");
    scanf("%d",&time);
    printf("Enter Rate of Interest: ");
    scanf("%f",&rate);
    fa=(float)(prin*pow((1+rate/100),time));
    ci=(float)fa-prin;
    printf("So,Annual Compound Interest: %.2f\n",ci);
    printf("Final Amount: %.2f\n",fa);
}
```

Program Output:



```
suman@hp15bs: ~/DCCPCSTS3 Assignment-1
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ gcc Q18.c -o Q18 -lm
Q18.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
4 | main(){
  | ^~~~~
suman@hp15bs:~/DCCPCSTS3 Assignment-1$ ./Q18
Enter your Principal Balance: 6500
Enter time in year: 3
Enter Rate of Interest: 5.6
So,Annual Compound Interest: 1154.29
Final Amount: 7654.29
suman@hp15bs:~/DCCPCSTS3 Assignment-1$
```

```
<--Made with LOVE by Suman Mondal-->
```