



Modern Student

# DILIP KUMAR

COMPUTER ASSINGMENT FILE

## Section Title

# COMPUTER ASSINGMENT BASIC PROGRAM FILE

*“MY NAME IS DILIP KUMAR*

*SISODIYA*

*SECTION - BTECH 1st YEAR AY1*

*ASSINGMENT OF C LANGUAGE”*

+

Q1. Write a C program for calculating the price of a product after adding the sales tax to its original price. Where rate of tax and price is inputted by user.

SOLUTION::

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int product_rate, sales_tax, total;
    printf("enter product rate and sales tax :");
    scanf("%d %d", &product_rate, &sales_tax);
    total=product_rate+sales_tax;
    printf("%d", total);
    return 0;
}
```

Q2. Write a C program to calculate the weekly wages of an employee. The pay depends on wages per hour and number of hours worked. Moreover, if the employee has worked for more than 30 hours, then he or she gets twice the wages per hour, for every extra hour that he or she has worked.

**Solution:**

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int wages_per_hour;
    int working_hours;
    printf("enter wages per hour and working hours");
    scanf("%d %d",&wages_per_hour,&working_hours);
    if(working_hours>30){
        int extra_hour= working_hours -30;
        int total_wages=(30*wages_per_hour)+(extra_hour
        *2*wages_per_hour);
        printf("%d",total_wages);
    }else{
        printf("%d",wages_per_hours*working_hours);
    }
    return 0;
}
```

Q.3 Mr. X goes to market for buying some fruits and vegetables. He is having a currency of Rs 500 with him for marketing. From a shop, he purchases 2.0 kg Apple priced Rs. 50.0 per kg, 1.5 kg Mango priced Rs.35.0 per kg, 2.5 kg Potato priced Rs.10.0 per kg, and 1.0 kg Tomato priced Rs.15 per kg. He gives the

currency of Rs. 500 to the shopkeeper. Find out the amount shopkeeper will return to X by writing a C program.

Solution:

```
#include<stdio.h>
#include<conio.h>
int main()
{
int apple_per_kg=50;
int mango_per_kg=35;
int potato_per_kg=10;
int tomato_per_kg=15;
float total=(50*2)+(35*1.5)+(10*2.5)+(1*15);
float net=500-total;
printf("%f",net);
return 0;
}
```

Q4. Write a C program to print your name, date of birth and mobile number in 3 different lines?

Solution:

```
#include<stdio.h>
#include<conio.h>
int main()
{
int date_of_birth,name,mobile_number;
printf("enter date of birth, name and mobile no.");
scanf("%d %d %d",&date_of_birth,&name,&mobile_number);
printf("\n%d",date_of_birth);
printf("\n%d",name);
printf("\n%d",mobile_number);
```

```
return 0;  
}
```

Q5. Write a program to read an integer, a character and a float value from keyboard and display the same in different lines on the screen

**Solution::**

Q6. Write a program to print the following line ( Assume the total value is contained in a variable named cost)

The sales total is : \$ 172.53

**Solution:**

```
#include<stdio.h>  
  
#include<conio.h>  
  
Int main()  
{  
float cost=172.53;  
printf("the sales total is %.2f",cost);  
return 0;  
}
```

Q7. Raju got 6 and half apples from each of Raghu, Sheenu and Akash. He wants to know how many apples he has in total without adding them. Write a program which could help Raju in doing this.

**Solution;**

```
#include<stdio.h>  
  
#include<conio.h>  
  
Int main()  
{
```



Q8 .Write a program that prints the floating point value in exponential **format** correct to two decimal places.

**Solution:**

```
#include<stdio.h>
#include<conio.h>
int main()
{
float cost=172.53;
printf("the sales total is %.f",cost);
return 0;
}
```

Q9. Write a program to input and print your mobile number (i.e. of 10 digits).

**Solution:** #include<stdio.h>

```
#include<conio.h>
int main()
{
int mobile_number;
printf("enter your mobile number: ");
scanf("%d",&mobile_number);
printf("mobile number is %d",mobile_number);
```

```
return 0;  
}
```

Q10.The population of a city is 30000. It increases by 20 % during first year and 30% during the second year. Write a program to find the population after two years? (Ans: 46800)

Solution:

```
#include<stdio.h>  
  
#include<conio.h>  
  
int main()  
{  
    int population=30000;  
    int population_increased_infirst_war=(30000*20)/100;  
    int  
    total_population_after_1st_war=population+population_increased_infirst_war;  
    int  
    population_increased_insecond_war=(total_population_after_1st_war*30)/100;
```

```
int  
  
total_population_after_2nd_war=(total_population_after_1st  
_war+population_insecond_war);  
  
int net_population=total_population_after_2nd_war;  
printf("%d",net_population);  
return 0;  
}
```

Q11. Write a program to find the ASCII value of a character.

Solution:

```
#include<stdio.h>  
  
#include<conio.h>  
  
int main()  
{  
    char n;  
    printf("enter any value: ");  
    scanf("%c",&n);  
    printf("%d",n);  
    return 0;  
}
```

Q12. Write a program to calculate salary of an employee, given his basic pay (entered by user), HRA=15% of the basic pay and TA=20% of the basic pay.

**Solution:**

```
#include<stdio.h>

#include<conio.h>

int main()

{

    float basic_pay,salary,TA,HRA,total_salary;

    printf("enter employee basic pay");

    scanf("%f",&basic_pay);

    HRA=0.15*basic_pay;

    TA=0.20*basic_pay;

    total_salary=TA+HRA+basic_pay;

    printf("%.2f",total_salary);

    return 0;

}
```

Q13. Write a program to find the slope of a line and angle of inclination that passes through two points P and Q with coordinates (xp, yp) and (xq, yq) respectively.

**Solution:**

```
#include<stdio.h>

#include<conio.h>

int main()

{

int xp,yp,xq,yq,slope;

printf("enter values of co-ordinates of P and Q");

scanf("%d,%d,%d,%d",&xp,&yp,&xq,&yq);

slope=(yq-yp)/(xq-xp);

printf("%d",slope);

return 0;

}
```

Q14. The SPI (Semester Performance Index) is a weighted average of the grade points earned by a student in all the courses he registered for in a semester. If the grade points associated with the letter grades awarded to a student are  $g_1, g_2, g_3, \dots, g_k$  etc. and the corresponding credits are  $c_1, c_2, c_3, \dots, c_k$ , the SPI is given by:

$$SPI = \frac{\sum_{i=1}^k c_i g_i}{\sum_{i=1}^k c_i}$$

Where,  $k$  is the number of courses for which the candidate remains registered for during the semester/ trimester. Write a program in C to calculate SPI for  $k = 5$ .

**Solution:**

```
#include<stdio.h>

#include<conio.h>

int main()

{

    int g1,g2,g3,g4,g5,c1,c2,c3,c4,c5,SPI;

    printf("enter grade points values");

    scanf("%d,%d,%d,%d,%d",&g1,&g2,&g3,&g4,&g5);
```

```

printf("enter c values: ");

scanf("%d,%d,%d,%d,%d",&c1,&c2,&c3,&c4,&c5);

SPI=(g1*c1+g2*c2+g3*c3+g4*c4+g5*c5)/(c1+c2+c3+c4+c5);

printf(" THE SEMESTER PERFORMANCE INDEX VALUE IS
%d",SPI);

return 0;

}

```

Q 15. Write a program to calculate the frequency (f) of a given wave with wavelength ( $\lambda$ ) and speed (c), where  $c=\lambda \cdot f$ .

**SOLUTION:**

```

#include<stdio.h>

#include<conio.h>

int main()

{

    int wavelenght,frequency;

    int speed=300000000;

    printf("enter wavelenght of a light");

```

```
scanf("%d",&wavelenght);

frequency=speed/wavelenght;

printf("%d",frequency);

return 0;

}
```

Q 16. A car travelling at 30 m/s accelerates steadily at 5 m/s<sup>2</sup> for a distance of 70 m. What is the final velocity of the car? [Hint:  $v^2 = u^2 + 2as$ ]

**Solution:**

```
#include<stdio.h>

#include<conio.h>

#include<math.h>

int main()

{

    float a=5,s=70,u=30;

    float final_velocity=sqrt(u*u+2*a*s);
```

```
    printf("%.2f",final_velocity);

    return 0;

}
```

Q 17.A horse accelerates steadily from rest at 4 m/s<sup>2</sup> for 3s. (a) What is its final velocity? (b) How far has it travelled? [Hint: (a)  $v = u + at$  (b)  $s = ut + \frac{1}{2}at^2$  ]

**Solution:**

```
#include<stdio.h>

#include<conio.h>

#include<math.h>

int main()

{

    float a=4,t=3,u=0;

    float final_velocity=(u+a*t);

    printf("%.2f",final_velocity);

    float total_distance=(u*t+(a*t*t)/2);
```

```
    printf("\n%.2f",total_distance);

    return 0;

}
```

Q 18. Write a program to find the sum of your four last digit of your university roll number .

**Solution:**

```
#include<stdio.h>

#include<conio.h>

int main()

{

    int roll_number,count;

    int sum=0;

    int i=1;

    printf("enter roll no. ");

    scanf("%d",&roll_number);

    while(roll_number>0)

    { for(i=1;i<=roll_number;i++)

        {if(i==4)
```

```
count+=roll_number%10;

roll_number/=10;

}

}

printf("THE SUM OF LAST FOUR DIGIT OF YOUR
ROLL NUMBER IS %d",count);

return 0;

}
```

Q19. Write a program to initialize your height and weight in cm. and kgs respectively demonstrating compile time initialization and convert them in feet and pounds respectively. **Note :- 1 cm = 0.393701inch , 1 Kg = 2.20462**

**Solution:**





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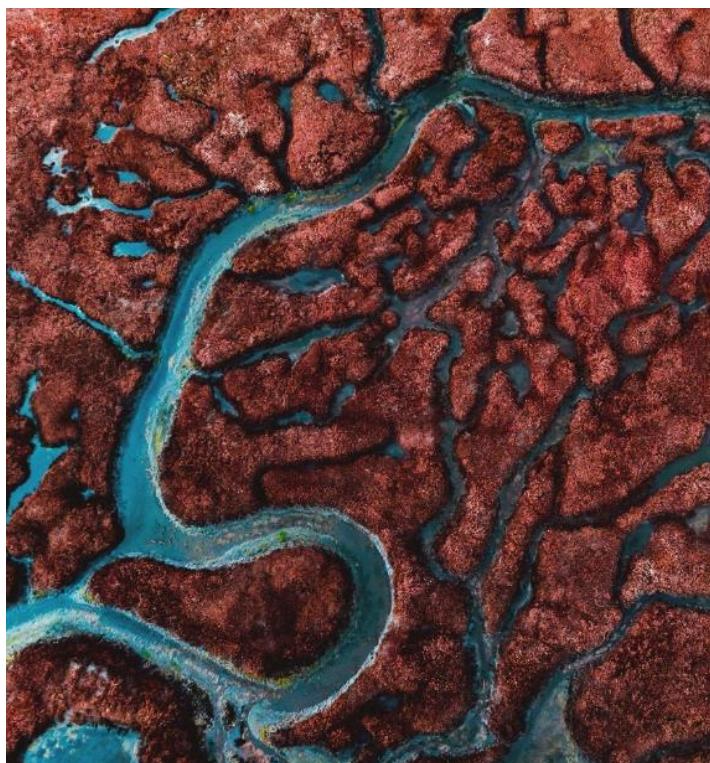


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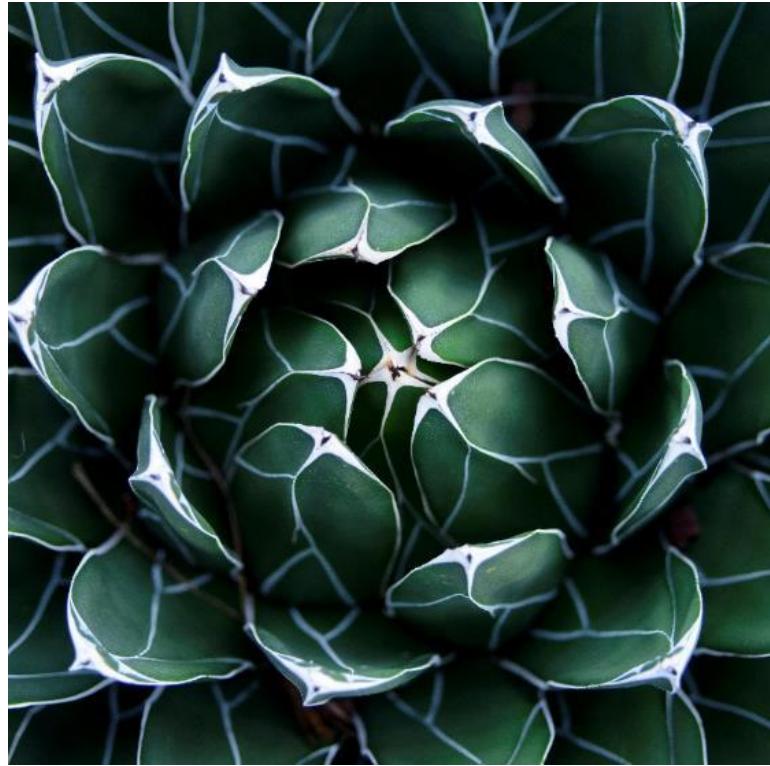
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