

## **ASSIGNMENT C PROGRAMMING**

**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.**

```
#include<stdio.h>
#include<conio.h>
int main()
{
    float p,t;
    float tax,final;
    printf("Please input the price of the product");
    scanf("%f",&p);
    printf("Please input the rate of tax");
    scanf("%f",&t);
    tax=(p*t)/100;
    final=p+tax;
    printf("The final price of product is %f",final);
    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.**

```
#include <stdio.h>

int main()
{
    float hw,wh,ww,oth,otp,rgw;
    scanf("%f",&hw);
    scanf("%f",&wh);
    if(wh<=30)
    {
        ww=hw*wh;
    }
    else{
        oth=wh-30;
        otp=oth*ww*2;
        rgw=hw*30;
        ww=rgw+otp;
    }

    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.**

Ans. #include <stdio.h>

```
int main()
{
    int q1=2;
    float q2=1.5;
    float q3=2.5;
    float q4=1.0;
    int p1=50;
    int p2=35;
    int p3=10;
    int p4=15;
    int A1,A2,A3,A4;
    A1=q1*p1;A2=q2*p2;
```

```
A3=q3*p3;A4=q4*p4;  
  
float all=A1+A2+A3+A4;  
  
float amount=500-all;  
  
printf("%f",amount);  
  
return 0;  
  
}
```

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

```
#include<stdio.h>  
  
#include<conio.h>  
  
int main()  
{  
  
printf("My name is Siddhant Jain \n");  
  
printf("My date of birth is 16/10/2004\n");  
  
printf("My mobie no. is 9557597660");  
  
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.**

```
#include <stdio.h>

int main()

{
    int a;
    char b;
    float c;

    scanf("%d",&a);
    scanf("%c",&b);
    scanf("%f",&c);

    printf("%d \n",a);
    printf("%c \n",b);
    printf("%f \n",c);

    return 0;
}
```

**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.**

```
#include <stdio.h>

int main()

{
    float cost;
    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.**

```
#include <stdio.h>

int main() {
    double raju_apples = 6.5; // Raju got 6.5 apples from each person
    int num_people = 3; // Raju received apples from 3 people
    double total_apples = raju_apples * num_people;
```

```
    printf("Raju has %.1f apples in total without adding them.\n", total_apples);

    return 0;
}
```

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

```
#include <stdio.h>

int main() {

    double number; // Replace this with your desired floating-point value

    scanf("%lf",&number);

    printf("The value in exponential format is: %.2e\n", number);

    return 0;
}
```

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

```
#include<stdio.h>

Int main()

{
```

```
long number;  
  
printf("Please enter your 10 digit mobile no.");  
  
scanf("%ld",&number);  
  
printf("%ld",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)**

```
#include<stdio.h>  
  
int main()  
{  
  
float first,second;  
  
int initial=30000;  
  
first=initial+(0.2*initial);  
  
second=initial+(0.3*initial);  
  
float final=first+second;  
  
printf("%f",final);  
  
return 0;}
```

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

```
#include<stdio.h>

int main()

{

char c;

scanf("%c",&c);

printf("%d",(int)c);

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.**

```
#include <stdio.h>

int main()

{

int basic,hra,ta,salary;

scanf("%d",&basic);

hra=(15*basic)/100;

ta=(20*basic)/100;
```

```
salary=basic+hra+ta;  
  
printf("%d",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.**

```
#include<stdio.h>  
  
#include<math.h>  
  
int main()  
{  
    int xp,xq,yp,yq;  
  
    printf("please enter the x coordinates of both the points respectively");  
  
    scanf("%d%d",&xp,&xq);  
  
    printf("please enter the y coordinates of both the points respectively");  
  
    scanf("%d%d",&yp,&yq);  
  
    float slope=(yq-yp)/(xq-xp);  
  
    float angle=atan(slope);
```

```

printf("Slope is %f",slope);

printf("angle is %d",angle);

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.**

```

#include <stdio.h>

int main() {

    int k = 5; // Number of courses

    float g1, g2, g3, g4, g5; // Grade points for each course

    float c1, c2, c3, c4, c5; // Credits for each course

```

```
float spi; // Semester Performance Index

// Input grade points and credits for each course

printf("Enter grade points and credits for each course:\n");

printf("Grade point for Course 1: ");

scanf("%f", &g1);

printf("Credits for Course 1: ");

scanf("%f", &c1);

printf("Grade point for Course 2: ");

scanf("%f", &g2);

printf("Credits for Course 2: ");

scanf("%f", &c2);

printf("Grade point for Course 3: ");

scanf("%f", &g3);

printf("Credits for Course 3: ");

scanf("%f", &c3);

printf("Grade point for Course 4: ");

scanf("%f", &g4);

printf("Credits for Course 4: ");

scanf("%f", &c4);
```

```

printf("Grade point for Course 5: ");

scanf("%f", &g5);

printf("Credits for Course 5: ");

scanf("%f", &c5);

// Calculate SPI using the formula

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

// Print the calculated SPI

printf("The Semester Performance Index (SPI) is: %.2f\n", spi);

return 0;

}

```

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

```

#include<stdio.h>

Int main()

{

long c,w,f;

printf("please enter the value of wavelength and velocity respectively");

scanf("%ld%ld",&w,&c);

f=c/w;

```

```
    printf("%d",f);

    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:  $v^2 = u^2 + 2as$ ]**

```
#include<stdio.h>

#include<math.h>

int main()

{

    int u=30,a=5,s=70,int v;

    v=sqrt((u*u)+2*a*s);

    printf("%d",v);

    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)  $s = ut + \frac{1}{2}at^2$  ]**

```
#include<stdio.h>
```

```
int main()
{
    int u,v,a,t,s;
    u=0;a=4;t=3;
    v=u+a*t;
    s=u*t+(a*t*t)/2;
    printf("final velocity is %d",v);
    printf("displacement is %d",s);
    return 0;
}
```

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

```
#include <stdio.h>

int main()
{
    long n;
    printf("please enter your university roll no.");
    scanf("%ld",n);
    int r=0;
```

```
int rem=0;

int c=0;

whie(n>0)

{

    r=n%10;

    rem=r+rem*10;

    n=n/10;

    c++;

    printf("%d ",n);

    if(c<=4)

    {

        break;

    }

}

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 feets and pounds respectively. Note :- 1 cm = 0.393701inch , 1 Kg = 2.20462**

```
#include <stdio.h>

int main()

{

    float height,weight,double inch,pound;

    printf("please enter your height and weight respectively");

    scanf("%f%f",&height,&weight);

    inch=height*0.393701;pound=2.20462*weight;

    float feet=inch/12;

    printf("%f",feet);

    printf("%lf",pound);

    return 0;

}
```

**Q 20 . Code the variable declarations for each of following:**

- a) A character variable named option.**
- b) An integer variable sum initialized to 0**
- c) A floating point variable, product, initialized to 1**

**Ans. #include <stdio.h>**

```
int main()

{
```

```
Char option;  
  
scanf("%c",&option);  
  
int sum=0;  
  
float product=1;  
  
return 0;  
  
}
```

**Q21. Write a program that reads nine integers. Display these numbers by printing three numbers in a line separated by commas.**

```
#include <stdio.h>  
  
int main() {  
  
    int numbers[9];  
  
    // Read nine integers from the user  
  
    printf("Enter nine integers:\n");  
  
    for (int i = 0; i < 9; i++) {  
  
        scanf("%d", &numbers[i]);  
  
    }  
  
    // Display the numbers in groups of three separated by commas  
  
    printf("The numbers in groups of three separated by commas are:\n");
```

```
for (int i = 0; i < 9; i++) {  
  
    printf("%d", numbers[i]);  
  
    if ((i + 1) % 3 == 0) {  
  
        printf("\n"); // Start a new line after every third number  
  
    } else {  
  
        printf(", "); // Add a comma and space for the other numbers  
  
    }  
  
}  
  
return 0;  
}
```

## **Q22. What are header files and what are its uses in C programming?**

**Ans.** Header files in C programming are files that contain declarations of functions, variables, and macros, as well as necessary include statements. These files typically have a ".h" extension and are used to separate the interface (declarations) from the implementation (actual code) in C programs. Header files serve several important purposes in C programming.

## **Q23. What will be the output of following program?**

**#include<stdio.h>**

```
int main()
{ int num=070;
printf("%d\t%o\t%x",num,num,num);
}
```

**Output:-**            56    70    38

**Q 24. What will be the output of following program?**

```
#include <stdio.h>
void main()
{
int x = printf("GLA UNIVERSITY");
printf("%d", x);
}
```

**Output:-** The program prints the value of x using printf("%d", x);, which will display 14 as the output.

“GLA UNIVERSITY14”

**Q25. What are library functions? List any four library functions.**

**Ans.** Library functions are pre-written functions provided by a programming language that perform common operations. These functions are stored in libraries

and can be invoked by the programmer without having to rewrite the code each time a certain operation is needed. Using library functions makes programming more efficient and often results in fewer errors since the functions have typically been tested and optimized by many users.

- (1) **Printf()** :- used to print statements and values in output
- (2) **strlen()**: Found in the **string.h** header, this function returns the length of a given string.
- (3) **scanf()** :- used to take input from user through different format specifier depending upon datatypes.
- (4) **sqrt()** : Defined in the **math.h** header, this function returns the square root of a given number.

## **Q26. What will be the output of following program?**

```
#include <stdio.h>
void main()
{
    int x = printf("C is placement oriented Language") -
printf("Hi");
    printf("%d %o %x", x,x,x);
}
```

**The required output is:-**

- **%d** prints the value of **x** in decimal format, which is **30**.
- **%o** prints the value of **x** in octal format, which is **36** (30 in octal).
- **%x** prints the value of **x** in lowercase hexadecimal format, which is **1e** (30 in hexadecimal).

So, the output of the program will be:

**30 36 1e**

### **Q27. What is the meaning of following statement?**

```
printf("%d",scanf("%d%d",&a,&b));
```

**Ans.** In this type of question firstly we will get values of a and b from user through `scanf()` and then print the value of a only because in `printf` there is only one `%d` which will print only a not both a and b.

### **Q28. What will be the output of following program?**

```
#include <stdio.h>  
void main()  
{  
    printf(" C %% FOR %% PLACEMENT");  
}
```

- **Ans.** "C %% FOR %% PLACEMENT" is the string to be printed.
- %% is an escape sequence that represents a single percent sign %.
- \" is an escape sequence that represents a double quote ".

So, when this program is executed, it will print the following output:

**-: THE REQUIRED OUTPUT IS :-**

"C % FOR % PLACEMENT"

**Q29. Suppose distance between GLA University and Delhi is m km (to be entered by user), by BUS you can reach Delhi in 4 hours. Develop a 'C' program to calculate speed of bus.**

```
#include<stdio.h>

int main()

{
    Float m; printf("Please enter the no. of kms between GLA and Delhi");

    Scanf("%f",&m);

    Float speed=m/4;

    Printf(" the speed of bus is %f km/h",speed);

    Return 0;
}
```

**Q30. In an exam Satyam got 50 marks, Suman got 70 marks and Shyam got 80 marks, Write a ‘C’ program to find average marks of these three participants.**

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int a,b,c; float avg;
    scanf("%d%d%d",&a,&b,&c);
    {
        avg=(a+b+c)/3;
        printf("your average is %.2f",avg);
        return 0;
    }
}
```

**Q31. One day, Mohan called Saurav and Sajal and gave some money to them, later he realized that money that was given to Saurav should be given to Sajal and vice-versa. Develop a ‘C’ program to help Mohan so that he can rectify his mistake.**

```
#include<stdio.h>
#include<conio.h>
```

```
int main()
{
    int a,b;
    printf("please enter two no. you want to swap");
    scanf("%d%d",&a,&b);
    printf("\n no.s before swapping are %d and %d",a,b);
    a=a+b;
    b=a-b;
    a=a-b;
    printf("\n no.s after swapping are %d and %d",a,b);
    return 0;
}
```

**Q32. One day when I was going for a lunch, suddenly rain started, I was very hungry so started running with speed of 4km/h and it took 3 min to reach mess. Help me to develop a ‘C’ program to calculate distance travelled by me.**

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

```
{  
  
int speed=4; int time=(4*60);  
  
int dist=speed*time;  
  
printf("The Total Distance is %d meters.",dist);  
  
return 0;  
  
}
```

**Q33. Can two or more escape sequences such as \n and \t be combined in a single line of program code?**

In C programming, you can combine multiple escape sequences in a single line of program code.

=: For example :=

you can combine the newline (\n) and tab (\t) escape sequences in a single line of code like this:

```
printf("This is a line with a newline character (\n) and a tab character (\t).");
```

**Q34. What are comments and how do you insert it in a C program?**

Ans. In C programming, comments are textual annotations or explanations within the source code that are ignored by the compiler. Comments are used to provide information about the code to programmers

**Single-line comments:** These are used for brief comments on a single line of code.

In C, single-line comments are preceded by //.

**Multi-line comments:** These are used for longer comments or comments that span multiple lines. In C, multi-line comments are enclosed within /\* and \*/.

### **Q35. What is wrong in this statement? scanf("%d",number);**

Ans. In order to get an input from user...you have to insert Ampersand(&) before 'number' variable and it will give you an error if you compile this line.

### **Q36. What will be the output?**

```
#include <stdio.h>

int main()
{
    if (sizeof(int) > -1)
        printf("Yes");
    else
        printf("No");
    return 0;
}
```

**Ans.** This Code will always print Yes on the Screen. Because sizeof(int) always opt to be 4 bytes.

### **Q37. Point out which of the following variable names are invalid:**

**gross-salary INTEREST , salary of emp , avg. ,  
thereisbookinmysoup**

Ans. Gross-salary INTEREST and salary of emp is considered as invalid to be assigned as variable name because hyphens are not allowed in variable names and only underscore is allowed in all special characters and spaces are not allowed in variable names.

**Q38. Tom works at an aquarium shop on Saturdays. One Saturday, when Tom gets to work, he is asked to clean a 175-gallon reef tank. His first job is to drain the tank. He puts a hose into the tank and starts a siphon. Tom wonders if the tank will finish draining before he leaves work. He measures the amount of water that is draining out and finds that 12.5 gallons drain out in 30 minutes. So, he figures that the rate is 25 gallons per hour. Develop a ‘C’ program to help Tom to calculate time required to completely clean tank.**

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int total=175;
    float gph=25.0;
    float time;
    time=total/gph;
    printf("The time required to empty the tank is %d",time);
```

```
    return 0;  
}
```

**Q39. The percent y (in decimal form) of battery power remaining x hours after you turn on a laptop computer is  $y = -0.2x + 1$ . Develop a 'C' program to calculate after how many hours the battery power is at 75%?**

```
#include <stdio.h>  
  
int main() {  
  
    double batteryPower = 0.75;  
  
    double x;  
  
    x = (1 - batteryPower) / -0.2;  
  
    printf("The battery power reaches 75%% after %.2f hours.\n", x);  
  
    return 0;  
}
```

**Q40.Which of the following is used to convert the high level language in machine language in a single go?**

- a. Compiler              b.Interpreter**
- c. Linker              dAssembler**

Ans. (a) Compiler

**Q 41. What is the format specifier for an Octal Number?**

- a.%0              b.%d**

- c. %o      d. %e**

Ans. (c) %o

**Q 42. Which format specifier is used to print the exponent value upto 2 decimal places.**

- a. %e    b.% .2f    c. %f    d.% .2e**

Ans. (d) %.2e

**Q 43. Which of the following is not a basic data type?**

- a. char  
b. array  
c. float  
d. int**

Ans. (b) array

**Q 44. What is the output of following code?**

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
    int x=0;
```

```
    x= printf("\\\"hello\\b\\\"");
```

```
    printf("%d",x);
```

```
}
```

- a. hello7    b. “hello”7    c. “hell”8    d. hell8**

Ans. (c) “hell”8

**Q 45. What is the output of following code?**

```
#include<stdio.h>
void main()
{
    int b,c=5 ;
    int(“%d , %d”, b,c);
}
```

**a. 5, 5                    b. 5, 5.000000**

**c. Garbage, 5.000000    d. Garbage, 5**

Ans. (d) Garbage,5

**Q46. Which of the following is an identifier?**

**a. &fact    b. Basic\_pay    c. enum    d. 1sum**

Ans. An identifier in C is a name used to identify a variable, function, or any other user-defined item. So identifier is :- (b) Basic\_pay

**Q 47. What is the output of the following program?**

```
#include<stdio.h>
void main()
{
    char x, a='c';
    x=printf("%c",a);
    printf(“%d”,x);
}
a. c1                    b. cgarbage
c. 1                    d. c
```

Ans. (d) c

**Q48. Perform the following conversion from Decimal to other number as directed-**

a)  $(365.55)_{10} = (?)_2$

b)  $(453.65)_{10} = (?)_8$

c)  $(5164.12)_{10} = (?)_{16}$

d)  $(23.65)_{10} = (?)_5$

e)  $(772)_{10} = (?)_7$

Ans. (a)  $(101101101.1)_2$ .

(b)  $(705.52)_8$ .

(c)  $(143C.1)_{16}$ .

(d)  $(43.43)_5$ .

(e)  $(1611)_7$ .

**Q49. Convert the following numbers to decimal number system-**

a)  $(325.54)_6 = (?)_{10}$

b)  $(1001010110101.1110101)_2 = (?)_{10}$

c)  $(742.72)_8 = (?)_{10}$

d)  $(AC94.C5)_{16} = (?)_{10}$

Ans. (a)  $(325.54)_6 = 5 * 6^0 + 4 * 6^1 + 5 * 6^2 + 2 * 6^3 + 3 * 6^4 = 5 + 24$

$+ 180 + 432 + 972 = 1613_{10}$

(b)  $(1001010110101.1110101)_2 = 1 * 2^0 + 0 * 2^1 + 1 * 2^2 + 0 * 2^3 + 1 * 2^4 + 0 * 2^5 + 1 * 2^6 + 1 * 2^7 + 0 * 2^8 + 1 * 2^9 + 0 * 2^{10} + 1 * 2^{11} + 0 * 2^{12} + 1 * 2^{13} + 1 * 2^{14} + 1 * 2^{15} + 0 * 2^{16} = \mathbf{8193.48828125}$

(c)  $(742.72)_8 = 2 * 8^0 + 7 * 8^1 + 4 * 8^2 + 7 * 8^{(-1)} + 2 * 8^{(-2)} = 2 + 56 + 256 + 0.875 + 0.03125 = \mathbf{315.90625}$

(d)  $(AC94.C5)_{16} = 5 * 16^0 + C(12) * 16^1 + 4 * 16^2 + 9 * 16^3 + A(10) * 16^4 = 5 + 192 + 1024 + 36864 + 40960 = \mathbf{78045}$

**Q50. Perform the following conversion from Hexadecimal to other number as directed-**

**$(DB56.CD4)_{16} = (?)_2, (?)_8, (?)_4$**

Ans. (a) Combine these binary representations together:

$$(D)_{16} = (1101)_2 \quad (B)_{16} = (1011)_2 \quad (5)_{16} = (0101)_2 \quad (6)_{16} = (0110)_2 \quad (C)_{16} = (1100)_2 \quad (D)_{16} = (1101)_2 \quad (4)_{16} = (0100)_2$$

And the decimal point remains the same. So:

$$(DB56.CD4)_{16} = (110110110110.010011010100)_2$$

b) So, in octal:

$$(DB56.CD4)_{16} = (6666.2324)_8$$

c) Convert to Decimal (Base-10):

To convert from binary to decimal, simply calculate the decimal value of the binary number:

$$(DB56.CD4)_{16} = (110110110110.010011010100)_2$$

Now, calculate the decimal value:

$$(110110110110.010011010100)_2 = 5678.32421875$$

So, in decimal:

$$(DB56.CD4)_{16} = 5678.32421875_{10}$$

**Q51. Perform the following conversion from octal to other number as directed-**

$$(473.42)_8 = (?)_2, (?)_{10}, (?)_{16}, (?)_5$$

**Ans.** To convert from octal to binary, replace each octal digit with its equivalent 3-bit binary representation:

Copy code

$$4 = 100 \quad 7 = 111 \quad 3 = 011 \quad . = . \quad 4 = 100 \quad 2 = 010$$

Combine these binary representations together:

$$(473.42)_8 = (100111011.100010)_2$$

**b) Convert to Decimal (Base-10):**

To convert from octal to decimal, you can use the following formula:

$$\text{Decimal} = d_0 * 8^0 + d_1 * 8^1 + d_2 * 8^2 + \dots$$

Let's calculate it:

$$(473.42)_8 = 3 * 8^0 + 7 * 8^1 + 4 * 8^2 + 4 * 8^{-1} + 2 * 8^{-2} = 3 + 56 + 256 + 0.5 \\ + 0.25 = 315.75$$

So, in decimal:

$$(473.42)_8 = 315.75_{10}$$

### c) Convert to Hexadecimal (Base-16):

To convert from octal to hexadecimal, first convert the octal number to binary and then group the binary digits into sets of four, starting from the binary point. Then, convert each group to its hexadecimal equivalent:

$(473.42)_8 = (100111011.100010)_2$  Group binary digits: 1001 1101 . 1000 10 Convert to hexadecimal: 9 D . 8 2

So, in hexadecimal:

$$(473.42)_8 = (9D.82)_{16}$$

### d) Convert to Quinary (Base-5):

To convert from octal to quinary (base-5), replace each octal digit with its equivalent 3-bit quinary representation:

$$4 = 041 \quad 7 = 112 \quad 3 = 013 \quad . = . \quad 4 = 041 \quad 2 = 022$$

Combine these quinary representations together:

$$(473.42)_8 = (112041013.041022)_5$$

So, in quinary:

$$(473.42)_8 = (112041013.041022)_5$$

## Q52. Find the value of A?

a)  $(23)_{10} = (17)_A$

b)  $(21)_{16} = (41)_A$

c)  $(32)_8 = (101)_A$

Ans. (a) 4

(b) 0

(c)  $(3 + \sqrt{13})$  OR  $(3 - \sqrt{13})$

**Q53: What will be the output of following program? Assume integer is of 2 bytes**

```
void main()
```

```
{
```

```
int a=32770;
```

```
}
```

**Ans,**

In most C compilers, an int is typically 2 bytes on most systems, and it has a limited range of -32,768 to 32,767 (assuming a signed integer).

Here, you're attempting to assign a value of 32,770 to the int variable a, which is outside the valid range for a 2-byte integer. This is likely to cause an overflow, and the behavior is undefined in C.

Q.54 #include<stdio.h>

```
int main()
```

```
{
```

```
float c=5.0;
```

```
printf("Temprature in Farenheit is %.2f", (9/5)*c + 32);
```

```
    return 0;  
}
```

Ans. -Required Output is :-

**“Temperature in Fahrenheit is 37.00”**

**“THANK YOU”**

---

-----XXX-----XXX-----XXX-----

