GLA UNIVERSITY

C-PROGRAMMING

ASSIGNMENT

NAME – **SAHIL VARSHNEY**

ROLL NO - 52

SECTION- **AL(2)**

SUBJECT- **C-PROGRAMMING**

DATE- **15/09/2023**

Q1.

```
.#include<stdio.h>   int main()   {
            float price,tax,total_price;
              printf("enter the price of product and the rate of TAX : ");
        scanf("%f %f",&price,&tax);       tax=((price*tax)/100);
 total_price=(price+tax);
             printf("total price =%.2f ",total_price);

  }
```

Q2.

```
#include<stdio.h>
int main() {
          int wages,hours,salary;
```

```
        printf("enter the hours and wages per hour :");
scanf("%d %d",&hours,&wages);
         if (hours>=30)
        {
                salary=2*(wages*hours);
printf("total salary : %d",salary);
        }
        else
        {
                salary=(wages*hours);
                    printf("total salary : %d",salary);
        }
}
```

Q3.

```
#include<stdio.h> int
main () {
        float a=100,b=52.5,c=25,d=15,money_left;   printf("2.0 kg Apple priced Rs.
50.0 per kg,\n 1.5 kg Mango priced
Rs.35.0 per kg,\n 2.5 kg Potato priced Rs.10.0 per kg, \n and 1.0 kg
Tomato priced Rs.15 per kg.");  money_left=(500-(a+b+c+d));
printf("\nmoney to be returned back :%.2f",money_left);
}
```

Q4.

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

```
        printf("NAME\tSAHIL VARSHNEY ");    printf("\nDATE
Of Birth\t25\10\2004");   printf("\nMobile
No\t7505179525");

}
```

Q5.

```
#include<stdio.h> int main() {   int Integer;   char Character;   float InputFloat;

  printf(" Please Enter a Character :  ");   scanf("%c",
&Character);

  printf(" Please Enter an Integer Value :  ");   scanf("%d",
&Integer);

  printf(" Please Enter Float Value :  ");   scanf("%f",
&InputFloat);

  printf(" \n The Integer Value that you Entered is :  %d", Integer);   printf(" \n The
Character that you Entered is :  %c", Character);   printf(" \n The Float Value that
you Entered is :  %f", InputFloat);   printf(" \n The Float Value with precision 2 is :
%.2f", InputFloat);

  return 0;

}
```

Q6.

```
#include<stdio.h>

int main()

{

printf("Assume the total value is contained in a variable named cost");

printf("\nthe sales total is : $ 172.53");
```

```
}
```

Q7.

```
#include<stdio.h>
int main()
{       float a=6.5,b=6.5,c=6.5,d;
        d=6.5*3;


        printf("total apples with raja are :%.1f",d);
        }
```

Q8.

```
#include<stdio.h>
int main()
{
        float n;
        printf("enter a number :");
        scanf("%f",&n);
        printf("the value you entered is : %.2f",n);
}
```

Q9.

```
#include<stdio.h>
int main()
{
 long long int a;
 printf("enter your mobile no.: ");
 scanf("%lld",&a);
 printf("your no. : %lld",a);
}
```

Q10.

```
#include<stdio.h>
int main()
{
	int p=30000,first,secound;
		printf("population of city: 30000");
	first=(p+((p*20)/100));
	printf("\npopulation of city during first year : %d",first);
	secound=(first+((first*30)/100));
	printf("\npopulation of city during secound year : %d",secound);

}
```

Q11.

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

```
int main() {

char d;

printf("Enter the character");

scanf("%c",&d);

printf("ASCII value of %c = %d",d,d);

return 0;

}
```

Q12.

```
#include<stdio.h>

int main(){

float basic_pay,HRA,TA,salary;

printf("Enter the basic pay:");

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

```
HRA=0.15*basic_pay;

TA=0.20*basic_pay;



salary= basic_pay+HRA+TA;

printf("Salary of an employee is:%.2f",salary);

return 0;

}
```

Q15.

```
#include<stdio.h>

int main(){

float frequency,wavelength,speed;
```

```
printf("enter the wavelength:");

scanf("%f",&wavelength);

printf("enter the speed:");

scanf("%f",&speed);

frequency=speed/wavelength;

printf("frequency of given wave is:%.2f",frequency);

return 0;
```

Q16.

```
#include<stdio.h>

#include<math.h>

int main(){
int acceleration=5;
int distance=70;
int initial_velocity=30;
```

```
int final_velocity;
 final_velocity=sqrt(pow(initial_velocity,2)+2*acceleration*distance);
printf("final_velocity of car is:%d",final_velocity);
return 0;

}
```

Q17.

```
#include<stdio.h>

#include<math.h>
int main(){
int u=0;
int a=4;
int t=3;
int v;
v=u+a*t;
printf("final_velocity is:%d\n",v);
int s;
s=u*t+(a*t*t)/2;
printf("distance travelled by horse\n:%d",s);
return 0;
}
```

Q18.

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

```
int main(){
int w,x,y,z;
printf("Enter the last four digits of your roll no.\n");
printf("enter w= ");
scanf("%d",&w);
printf("enter x= ");

scanf("%d",&x);
printf("enter y= ");
scanf("%d",&y);
printf("enter z= ");
scanf("%d",&z);
int sum;
sum=w+x+y+z;
printf("sum of the last four digit of roll no:%d",sum);
return 0;

}
```

Q22.

Header file refers to a file with extension . h that contains C function declarations and macro definitions which are to be shared between multiple source files.

Uses of header file.

1. Declaration of functions and types

2. Modularity and code organization

3.Code Reusability

4. Avoiding code Redundancy

5. Preprocessor Directives

6. Standard Library and Third part Libraries

Q23.

56 70 38

Q24.

GLA UNIVERSITY14

Q25.

Library functions are built-in functions that are grouped together and placed in a common location called library.

List any four library function:

1. printf()

2. scanf()

3.sqrt()

4.strcpy()

Q26.

C is placement oriented LanguageHi30 36 1e

Q28.

"C % FOR % PLACEMENT**"**

Q29.

#include <stdio.h>

```
int main() {
    double distance, time;

    printf("Enter the distance (in kilometers) between GLA University and Delhi: ");
    scanf("%lf", &distance);

    time = 4.0;

    double speed = distance / time;



    printf("The speed of the bus is %.2lf km/h.\n", speed);

    return 0;
}
```

Q30.

Answer 30:

```
#include<stdio.h> #include<math.h> int main() {  int
shyam=80,satyam=50,suman=70;  float average;
average=(shyam+satyam+suman)/3;  printf("calculate the average marks :
%.2f", average);  return 0;
}
```

Q31.

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

```
int main() {
   double moneyGivenToSaurav, moneyGivenToSajal, temp;

   printf("Enter the amount of money given to Saurav: ");
   scanf("%lf", &moneyGivenToSaurav);

   printf("Enter the amount of money given to Sajal: ");
   scanf("%lf", &moneyGivenToSajal);


   temp = moneyGivenToSaurav;
   moneyGivenToSaurav = moneyGivenToSajal;
   moneyGivenToSajal = temp;

   printf("After rectifying the mistake:\n");
   printf("Amount of money given to Saurav: %.2lf\n", moneyGivenToSaurav);
   printf("Amount of money given to Sajal: %.2lf\n", moneyGivenToSajal);

   return 0;
}
```

Q32.

```
#include<stdio.h> #include<math.h>> int main() {  int
speed,time,distance;  printf("enter the speed :");
scanf("%d", &speed);  printf("enter the time :");
scanf("%d",&time);  distance=speed*time;  if(speed<=4)
 {
 printf("He is comfortable to eat the food in the mess");     }     else if(speed>4)
   {
    printf("He is comfortable to eat the food in the mess");
 }
 printf("\nenter the distance : %d",distance);  return 0;
}
```

Q33.

yes

Q34.

The comments in c are human-readable explanation or notes in the source code of a C program.

Comments begin with /* and ended by */ characters. Comments can be a single line, or can even span several lines. It can be placed anywhere in the program.

Q35.

An ampersand (&) symbol must be placed before the variable name whatnumber,placing & means whatever integer value is entered by the user store at the "address" of the variable name. This is a common mistake for programmers often leading to logical error.

Q36.

```
#include <stdio.h> int main() {    if (sizeof(int)
> -1)       printf("Yes");    else
printf("No");    return 0;
}
```

OUTPUT NO ANSWER

Q39.

```
#include <stdio.h>

int main() {
   double batteryPower = 1.0; // Initial
battery power (100%)
```

```
   double targetPower = 0.75; // Target
battery power (75%)
   double hours = 0; // Initialize the
hours to 0

   while (batteryPower > targetPower) {
      batteryPower -= 0.2; // Decrease
the battery power by 0.2 (0.2
represents 20% per hour)
      hours++; // Increase the hours by 1
   }

   printf("The battery power is at 75%%
after %.1lf hours.\n", hours);

   return 0;
}
```

Q40.

- compiler

Q41.

(c) %o

Q42.

(b) %.2f

Q43.

(b) array

Q44.

#include<stdio.h> void main() { int x=0; x=
printf("\"hello\b\""); printf(“%d”,x);
}

OUTPUT

(c)“hello”8

Q45.

d. Garbage, 5

Q46.

(c) enum

Q47.

(a) c1

Q49.

a) $(325.54)_6 \approx 125.9444_{10}$ b) $(1001010110101.1110101)_2 \approx 4679.90625_{10}$ c) $(742.72)_8 \approx 482.90625_{10}$ d) $(AC94.C5)_{16} \approx 705881.76953125_{10}$

Q50.

$(DB56.CD4)_{16} = 110110110101101001101100.110010110100_2$ (Binary)
$(DB56.CD4)_{16} = 656.514_8$ (Octal) $(DB56.CD4)_{16} \approx 56022.80108643_{10}$ (Decimal)

Q51.

$(100111011.10001)_2$, $(315.53125)_8$,($CD.ACAA)_{16}$

Q52.

a-16

b-8

c-16

Q53.

32770

Q54.

#include <stdio.h> int main() { float c = 5.0; printf ("Temperature in Fahrenheit is %.2f", (9/5)*c + 32); return 0; }

OUTPUT

Temperature in Fahrenheit is 37.00