

Assignment 2.

1. The total age of three kids in a family is 27 years.
What will be the total of their ages after three years?

```
#include <stdio.h>
int main() {
    int current_total_age = 27;
    int years_later = 3;
    int number_of_kids = 3;
    int future_total_age;

    future_total_age = current_total_age + (number_of_kids * years_later);

    printf("Total age after %d years will be: %d years\n", years_later, future_total_age);

    return 0;
}
```

2. Find the product of all the numbers present on the calculator pad.

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

    number_present=1*2*3*4*5*6*7*8*9*0;
    product_of_all_number=number_present;

    printf("Product of all number is:%d\n",product_of_all_number);

    return 0;
}
```

3. Jessi ran 12 laps every day for two weeks. How many laps did she run in all

```
#include<stdio.h>
int main(){
    int laps_every_day;
    int two_weeks;
    int total_laps;

    laps_every_day=12;
    two_weeks=14;

    total_laps=laps_every_day*two_weeks;

    printf("Total laps did she run is:%d\n", total_laps);

    return 0;
}
```

4. Simplify: $133 - 19 \times 2 + 15$

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

    simplify=133-19*2+15;

    printf("Simplify:%d\n",simplify);

    return 0;
}
```

5. Find the next term of the arithmetic sequence 177, 173, 169, 165,...

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

```

int defference;
int next_term;
int last_term;

defference= -4;
last_term= 165;
next_term= last_term + defference;

printf("Next term is:%d\n", next_term);

return 0;
}

```

6. Kamal's annual income is Rs. 288000. His annual savings amount to Rs. 36000. What is his total yearly expenditure?

```

#include<stdio.h>
int main(){
    int annual_income=288000;
    int annual_savings=36000;
    int total_yearly_expenditure;

    total_yearly_expenditure=annual_income-annual_savings;

    printf("total yearly expenditure is:%d\n", total_yearly_expenditure);

    return 0;
}

```

7. Find the value of $45 \div 9 \times 3 + 15 - 6$

```

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

    value= 45/9*3+15-6;
}

```

```

printf("final value is:%d\n", value);

return 0;
}

```

8. Simplify the numerical expression: $[36 \div (-9)] \div [(-24) \div 6]$

```

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

    int numerical_expression= 36/(-9)/(-24)/6;

    printf("Numerical expressio is:%d\n", numerical_expression);

    return 0;
}

```

10. Mehak bought 96 toys priced equally for Rs. 12960. The amount of Rs.1015 Find the cost of each toy and the amount he had .

```

#include<stdio.h>
int main(){
    int total_toys=96;
    int price=12960;
    int one_toy;
    int left_amount=1015;
    int total_amount;

    one_toy=price/total_toys;
    total_amount=price+left_amount;

    printf("Each toys price is Rs. %d\n",one_toy);
    printf("Total amount he had Rs. %d\n",total_amount);
}

```

```
return 0;
}
```

11. How to compute the volume of a cylinder?

The formula for the volume of a cylinder is given as:

$$V = \pi r^2 h$$

```
#include<stdio.h>
int main(){
    float volume,radius,height;

    printf("Enter radius of a cylinder :");
    scanf("%f",&radius);

    printf("Enter height of a cylinder :");
    scanf("%f",&height);

    volume= 3.14*radius*radius*height;

    printf("volume of a cylinder :%.2f\n", volume);

    return 0;
}
```

13. The dimensions of a rectangular water tank are given as 2m 75cm, 1m 80cm and 1m 40cm.

How many liters of water can be filled in the tank?

Solution:

As we know that 1m=100cm

Dimensions of the tank are 2m 75cm and 1m 80cm and 1m 40cm.

These can be written as 275cm, 180 cm, 140 cm

Now, we know that the volume of the cuboid is,

$$V = l \times b \times h$$

$$V = 275 \times 180 \times 140$$

$$V = 6930000 \text{ cm}^3$$

Since 1000 cm³ = 1 Liter

Thus, V=6930 liters

Hence the tank will hold 6930 liters of water.

```
#include<stdio.h>
int main(){
    int length=275,breadth=180,height=140;
    int volume_cuboid;
    int volume_liter;

    volume_cuboid=length*breadth*height;
    volume_liter=volume_cuboid/1000;

    printf(" volume of the cuboid is :%d\n",volume_cuboid);
    printf("the tank will hold %d liters of water\n", volume_liter);

    return 0;
}
```

14. How many persons can be accommodated in a big room of length 16m, breadth 12.5m, and height 4.5m. Assume that 3.6 m³ of air is needed for each
Solution:

First, we will compute the volume of the room of cuboid shape:

$$\begin{aligned} V &= l \times b \times h \\ &= 16 \times 12.5 \times 4.5 \\ &= 900 \text{ m}^3 \end{aligned}$$

Also, it is given that 3.6 m³ of air is needed for each person.

So, the total number of persons can be accommodated in the room is:

$$\begin{aligned} &\text{Total volume/ volume required by each person} \\ &= 900/3.6 \\ &= 250 \text{ people.} \end{aligned}$$

```
#include<stdio.h>
int main(){
    float length=16,breadth=12.5,height=4.5;
    float volume;
    float volume_required_by_each_person=3.6;
    float total_person;
```

```

volume=length*breadth*height;
printf("volume of the room of cuboid shape: %.2f\n",volume);

total_person=volume/volume_required_by_each_person;

printf("the total number of persons can be accommodated in the room is:%

return 0;
}

```

15. A shopkeeper buys some watches for ₹ 20 each. Then he sells them for ₹ . Calculate the profit and the profit percentage?

Solution:

In this question given facts are:

The selling price of the watch = ₹45

The cost price of the watch = ₹20

Now, Profit = Selling Price – Cost Price

So, the profit of one watch

= 45 – 20

= ₹25

As we know the formula for profit percentage as:

Profit Percentage = $\frac{\text{Profit} \times 100}{\text{C.P.}}$

So, The profit percentage of the shopkeeper is,

= $\frac{25 \times 100}{20}$

= 1.25 × 100

= 125%.

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

```
int main(){
```

```
    float cost_price=20;
```

```
    float selling_price=45;
```

```
    float profit,percentage;
```

```
    profit=selling_price - cost_price;
```

```
    printf("The profit of one watch is Rs. %.2f\n",profit);
```

```
    percentage=profit*100/20;
```

```

printf("The profit percentage of the shopkeeper is Rs. %.2f%%\n",percenta

return 0;
}

```

16. A man buys an article for ₹ 27.50 and sells it for ₹28.50. Find his profit and Solution:

Given values are:

Cost Price C.P. = ₹ 27.50,

Selling Price S.P. = ₹ 28.50

His gain= ₹ 28.50 –27.50

= ₹ 1.10

Thus profit percentage

= $1.10/27.50 \times 100$

= 4%

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

```
int main(){
```

```
    float cost_price=27.50;
```

```
    float selling_price=28.50;
```

```
    float profit = selling_price - cost_price;
```

```
    float profit_percentage;
```

```
    printf("The profit he gain is Rs. %.2f\n", profit);
```

```
    profit_percentage= profit*100.0/27.50;
```

```
    printf("The profit percentage he gain :%.2f%%\n",profit_percentage);
```

```
    return 0;
```

```
}
```