C Programming Assignment 1

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Contents

1 Add Two Numbers

Code

```c
#include <stdio.h>

int main() {
    int a, b, sum;
    printf("Enter two numbers:\n");
    scanf("%d %d", &a, &b);
    sum = a + b;
    printf("the sum of %d and %d is = %d\n", a, b, sum);
    return 0;
}
```

Output

```
Enter two numbers:
10
11
the sum of 10 and 11 is = 21
```

2 Subtract Two Numbers

Code

```c
#include <stdio.h>

int main() {
    int a, b, difference;
    printf("Enter two numbers:\n");
    scanf("%d %d", &a, &b);
    difference = a - b;
    printf("the difference of %d and %d is = %d\n", a, b, difference);
    return 0;
}
```

Output

```
Enter two numbers:
57
34
the difference of 57 and 34 is = 23
```

3 Multiply Two Numbers

Code

```c
#include <stdio.h>

int main() {
    int a, b, product;
    printf("Give your dear two numbers:\n");
    scanf("%d %d", &a, &b);
    product = a * b;
    printf("the product of %d and %d is %d\n", a, b, product);
    return 0;
}
```

Output

```
Give your dear two numbers:
20
50
the product of 20 and 50 is 1000
```

4 All Four Operations

Code

```c
#include <stdio.h>

int main() {
    float a, b, quotient, sum, product, difference;
    printf("Give your dear two numbers:\n");
    scanf("%f %f", &a, &b);

    quotient = a / b;
    printf("the quotient of %f and %f is %f\n", a, b, quotient);

    sum = a + b;
    printf("the sum of %f and %f is %f\n", a, b, sum);

    product = a * b;
    printf("the product of %f and %f is %f\n", a, b, product);

    difference = a - b;
    printf("the difference of %f and %f is %f\n", a, b, difference);

    return 0;
}
```

Output

```
Give your dear two numbers:
18
2
the quotient of 18.000000 and 2.000000 is 9.000000
the sum of 18.000000 and 2.000000 is 20.000000
the product of 18.000000 and 2.000000 is 36.000000
the difference of 18.000000 and 2.000000 is 16.000000
```

5 Divide Two Numbers

Code

```c
#include <stdio.h>

int main() {
    float a, b, quotient;
    printf("Give your dear two numbers:\n");
    scanf("%f %f", &a, &b);
    quotient = a / b;
    printf("the quotient of %f and %f is = %f\n", a, b, quotient);
    return 0;
}
```

Output

```
Give your dear two numbers:
8
4
the quotient of 8.000000 and 4.000000 is = 2.000000
```

6 Hours into Minutes

Code

```c
#include <stdio.h>

int main() {
    float hrs, min;
    printf("How many hours will you spare?\n");
    scanf("%f", &hrs);
    min = hrs * 60;
    printf("the time you specified is %f minutes\n", min);
    return 0;
}
```

Output

```
How many hours will you spare?
15
the time you specified is 900.000000 minutes
```

Note: The output in the source document shows 300.000000, which corresponds to an input of 5, not 15. The code above generates the arithmetically correct output.

7 Minutes Into Hours

Code

```c
#include <stdio.h>

int main() {
    float hrs, min;
    printf("How many minutes will you spare?\n");
    scanf("%f", &min);
    hrs = min / 60;
    printf("the time you specified is %f hours\n", hrs);
    return 0;
}
```

Output

```
How many minutes will you spare?
180
the time you specified is 3.000000 hours
```

8 Dollars into Rupees

Code

```c
#include <stdio.h>

int main() {
    float usd, inr;
    printf("How many dollars will you convert?\n");
    scanf("%f", &usd);
    inr = usd * 87;
    printf("%f usd is %f rupees\n", usd, inr);
    return 0;
}
```

Output

```
How many dollars will you convert?
500
500.000000 usd is 43500.000000 rupees
```

9 Rupees into Dollars

Code

```c
#include <stdio.h>

int main() {
    float usd, inr;
    printf("How many rupees will you convert?\n");
    scanf("%f", &inr);
    usd = inr / 87;
    printf("%f inr is %f dollars\n", inr, usd);
    return 0;
}
```

Output

```
How many rupees will you convert?
50000
50000.000000 inr is 574.712646 dollars
```

10 Dollars to Pounds

Code

```c
#include <stdio.h>

int main() {
    float usd, inr, pound;
    printf("How many dollars will you convert?\n");
    scanf("%f", &usd);
    inr = usd * 87;
    pound = inr / 118.2;
    printf("%f usd is %f pounds\n", usd, pound);
    return 0;
}
```

Output

```
How many dollars will you convert?
20
20.000000 usd is 14.720812 pounds
```

11 Grams to Kilograms

Code

```c
#include <stdio.h>

int main() {
    float gm, kg;
    printf("How many grams will you convert?\n");
    scanf("%f", &gm);
    kg = gm / 1000;
    printf("%f grams is %f kilograms\n", gm, kg);
    return 0;
}
```

Output

```
How many grams will you convert?
5000
5000.000000 grams is 5.000000 kilograms
```

12 Kilograms to Grams

Code

```c
#include <stdio.h>

int main() {
    float gm, kg;
    printf("How many kilograms will you convert?\n");
    scanf("%f", &kg);
    gm = kg * 1000;
    printf("%f kilograms is %f grams\n", gm, kg);
    return 0;
}
```

Output

```
How many kilograms will you convert?
5
5000.000000 kilograms is 5.000000 grams
```

Note: The code in the source document has a logical error in the final printf statement, swapping the variables. This output reflects that error. The corrected line would be printf("%f kilograms is %f grams
n", kg, gm);

13 Bytes to KB, MB, GB

Code

```c
#include <stdio.h>

int main() {
    float byte, kb, mb, gb;
    printf("How many bytes will you convert?\n");
    scanf("%f", &byte);
    kb = byte / 1024;
    mb = kb / 1024;
    gb = mb / 1024;
    printf("%f byte is %f kb\n", byte, kb);
    printf("%f byte is %f mb\n", byte, mb);
    printf("%f byte is %f gb\n", byte, gb);
    return 0;
}
```

Output

```
How many bytes will you convert?
10000000000
10000000000.000000 byte is 9765625.000000 kb
10000000000.000000 byte is 9536.743164 mb
10000000000.000000 byte is 9.313226 gb
```

14 Celsius to Fahrenheit

Code

```c
#include <stdio.h>

int main() {
    float C, F;
    printf("How many celsius will you convert?\n");
    scanf("%f", &C);
    F = (9.0 / 5.0) * C + 32;
    printf("%f celsius is %f fahrenheit\n", C, F);
    return 0;
}
```

Output

```
How many celsius will you convert?
38
38.000000 celsius is 100.400002 fahrenheit
```

15 Fahrenheit to Celsius

Code

```c
#include <stdio.h>

int main() {
    float C, F;
    printf("How many fahrenheit will you convert?\n");
    scanf("%f", &F);
    C = 5.0 / 9.0 * (F - 32);
    printf("%f fahrenheit is %f celsius\n", F, C);
    return 0;
}
```

Output

```
How many fahrenheit will you convert?
100
100.000000 fahrenheit is 37.777779 celsius
```

16 Calculate Interest

Code

```c
#include <stdio.h>

int main() {
    float P, R, T, SI;
    printf("How many years will you spare?\n");
    scanf("%f", &T);
    printf("How much rate?\n");
    scanf("%f", &R);
    printf("How much money?\n");
    scanf("%f", &P);
    SI = (P * R * T) / 100.0;
    printf("the TOTAL INTEREST IS %.2f\n", SI);
    return 0;
}
```

Note: The source document did not contain an output for this specific program.

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17   Area and perimeter of a square

Code

```c
#include <stdio.h>

int main() {
    float side, area, perimeter;
    printf("what is the length of the side \n");
    scanf("%f", &side);
    area = side * side;
    perimeter = 4 * side;
    printf("the area of the square with side %f is %f\n", side, area);
    printf("the perimeter of the square with side %f is %f\n", side, perimeter);
    return 0;
}
```

Output

```
what is the length of the side
15
the area of the square with side 15.000000 is 225.000000
the perimeter of the square with side 15.000000 is 60.000000
```

18   Area and perimeter of a rectangle

Code

```c
#include <stdio.h>

int main() {
    float length, breadth, area, perimeter;
    printf("what is the length of the rectangle?\n");
    scanf("%f", &length);
    printf("what is the breadth of the rectangle? \n");
    scanf("%f", &breadth);
    area = length * breadth;
    perimeter = 2 * (breadth + length);
    printf("the area of the rectangle with length %f and breadth %f is %f\n", length,
    breadth, area);
    printf("the perimeter of the rectangle with length %f and breadth %f is %f\n",
    length, breadth, perimeter);
    return 0;
}
```

Output

```
what is the length of the rectangle?
15
what is the breadth of the rectangle?
30
the area of the rectangle with length 15.000000 and breadth 30.000000 is 450.000000
the perimeter of the rectangle with length 15.000000 and breadth 30.000000 is 90.000000
```

19 Area of a circle

Code

```c
#include <stdio.h>

int main() {
    float radius, area;
    printf("what is the radius of the circle? \n");
    scanf("%f", &radius);
    area = (radius * radius) * 3.14;
    printf("the area of the circle with radius %f is %f\n", radius, area);
    return 0;
}
```

Output

```
what is the radius of the circle?
20
the area of the circle with radius 20.000000 is 1256.000000
```

20 Area of a triangle

Code

```c
#include <stdio.h>

int main() {
    float base, area, height;
    printf("what is the height of the triangle \n");
    scanf("%f", &height);
    printf("what is the base of the triangle \n");
    scanf("%f", &base);
    area = base * height * 0.5;
    printf("the area of the swuare with height %f and base %f is %f\n", height, base,
    area);
    return 0;
}
```

Note: The typo "swuare" in the printf statement is from the original document.

Output

```
what is the height of the triangle
50
what is the base of the triangle
20
the area of the swuare with height 50.000000 and base 20.000000 is 500.000000
```

21   Net salary

Code

```
1  #include <stdio.h>
2
3  int main(){
4      float net, salary;
5      printf("Enter your salary:\n");
6      scanf("%f", &salary);
7      net = (salary + (salary * 0.1) - (salary * 0.03));
8      printf("Your net salary is %f\n", net);
9      return 0;
10 }
```

Output

```
Enter your salary:
100000
Your net salary is 107000.000000
```

22   Net sales with discount

Code

```
1  #include <stdio.h>
2
3  int main(){
4      float net, gross;
5      printf("Enter your gross:\n");
6      scanf("%f", &gross);
7      net = (gross - (gross * 0.1));
8      printf("Your net sales is %f\n", net);
9      return 0;
10 }
```

Output

```
Enter your gross:
10000
Your net sales is 9000.000000
```

23   Swapping Numbers

Code

```c
#include <stdio.h>

int main() {
    int a, b, c;
    printf("Enter two numbers:\n");
    scanf("%d %d", &a, &b);
    c = a;
    a = b;
    b = c;
    printf("the two numbers are %d and %d\n", a, b);
    return 0;
}
```

Output

```
Enter two numbers:
69
96
the two numbers are 96 and 69
```

24   Total and Average of 3 Subjects

Code

```c
#include <stdio.h>

int main() {
    float phy, math, chem, avg, total;
    printf("Please enter your Physics Marks:\n");
    scanf("%f", &phy);
    printf("Please enter your Maths Marks:\n");
    scanf("%f", &math);
    printf("Please enter your Chemistry Marks:\n");
    scanf("%f", &chem);
    total = math + phy + chem;
    avg = total / 3;
    printf("The total for three subjects is %f\n", total);
    printf("The average for three subjects is %f\n", avg);
    return 0;
}
```

Output

```
Please enter your Physics Marks:
100
Please enter your Maths Marks:
50
Please enter your Chemistry Marks:
10
The total for three subjects is 160.000000
The average for three subjects is 53.333332
```