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Code [Administrator]

C main.c

Ex2.30 > C main.c main(void)

```
1 #include <stdio.h>
2
3 int main(void) {
4     int number, remainder,
5         firstDigit, secondDigit, thirdDigit, fourthDigit, fifthDigit;
6
7     printf("Enter a Five Digits Number: ");
8     scanf("%d", &number);
9
10    firstDigit = number / 10000;
11    remainder = number % 10000;
12    secondDigit = remainder / 1000;
13    remainder = number % 1000;
14    thirdDigit = remainder / 100;
15    remainder = number % 100;
16    fourthDigit = remainder / 10;
17    remainder = number % 10;
18    fifthDigit = remainder;
19
20    printf("%d %d %d %d %d", firstDigit, secondDigit, thirdDigit, fourthDigit, fifthDigit);
21 }
```

bash

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.26 (main)

\$ cd ../Ex2.30

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex2.30 (main)

\$ gcc main.c -o run

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\$./run.exe

Enter a Five Digits Number: 56893

5 6 8 9 3

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\$

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5:20 PM 6/7/2024

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Code [Administrator]

main.c Ex2.30main.c Ex2.33

bash

Ex2.33 > C main.c main(void)

```
1 #include <stdio.h>
2
3 int main(void) {
4     float milesDriven, gasolinePrice, milesPerGallon, parkingFees, tolls;
5
6     printf("Enter Total miles driven per day: ");
7     scanf("%f", &milesDriven);
8     printf("Enter Cost per gallon of gasoline: ");
9     scanf("%f", &gasolinePrice);
10    printf("Enter Average miles per gallon: ");
11    scanf("%f", &milesPerGallon);
12    printf("Enter Parking fees per day: ");
13    scanf("%f", &parkingFees);
14    printf("Enter Tolls per day: ");
15    scanf("%f", &tolls);
16
17    float totalCost = ((milesDriven / milesPerGallon) * gasolinePrice) + parkingFees + tolls;
18    printf("Transportation Cost Per Day is %.2f", totalCost);
19 }
```

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex2.30 (main)

\$ cd ../Ex2.33

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex2.33 (main)

\$ gcc main.c -o run

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\$./run.exe

Enter Total miles driven per day: 1436

Enter Cost per gallon of gasoline: 450

Enter Average miles per gallon: 300

Enter Parking fees per day: 200

Enter Tolls per day: 150

Transportation Cost Per Day is 2504.00

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5:23 PM 6/7/2024

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Code [Administrator]

main.c Ex3.21 Xmain.c Ex3.22main.c Ex3.21bash X

EX3.21 > C main.c > ...

```
1 #include <stdio.h>
2
3 int main(void) {
4     int number = 15;
5
6     //Post-Incrementing: number increases after printf statement
7     printf("Post-Incrementing: %d\n", number++);
8
9     //Pre-Incrementing: number increases before printf statement
10    printf("Pre-Incrementing: %d\n", ++number);
11 }
```

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\$ cd ../Ex3.21

Administrator@DESKTOP-1UJGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.21 (main)

\$ gcc main.c -o run

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\$./run.exe

Post-Incrementing: 15

Pre-Incrementing: 17

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5:25 PM 6/7/2024

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Code [Administrator]

main.c Ex3.21

main.c Ex3.22 X

main.c Ex3.31

bash X

EX3.22 > C main.c > ...

```
1  #include <stdio.h>
2
3  int main(void) {
4      int number;
5      int isPrime = 1;
6
7      printf("Enter an Integer: ");
8      scanf("%d", &number);
9
10     for (int divisor=2; divisor <= number/2; divisor++) {
11         if (number % divisor == 0) {
12             isPrime = 0;
13             printf("%d is not a prime number since it is divisible by %d", number, divisor);
14             break;
15         }
16     }
17
18     if (isPrime) {
19         printf("%d is a prime number", number);
20     }
21 }
```

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.21 (main)

\$ cd ../Ex3.22

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.22 (main)

\$ gcc main.c -o run

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.22 (main)

\$./run.exe

Enter an Integer: 25

25 is not a prime number since it is divisible by 5

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\$./run.exe

Enter an Integer: 29

29 is a prime number

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\$

main*

0

Code

Debug

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5:28 PM

6/7/2024

```
EX3.31 > C main.c > ...
1  #include <stdio.h>
2
3  int main(void) {
4      int x = 5;
5      int y = 8;
6
7      // TASK A
8      printf("Task A:\n");
9      if ( y == 8 ) {
10
11         if ( x == 5 ) {
12             puts( "00000" );
13         } else {
14             puts( "#####" );
15         }
16
17         puts( "$$$$$" );
18         puts( "&&&&&" );
19     }
20
21     // TASK B
22     printf("\nTask B:\n");
23     if ( y == 8 ) {
24
25         if ( x == 5 ) {
26             puts( "00000" );
27         } else {
28             puts( "#####" );
29             puts( "$$$$$" );
30             puts( "&&&&&" );
31         }
32     }
33
34
35     // TASK C
36     printf("\nTask C:\n");
37     if ( y == 8 ) {
38         if ( x == 5 ) {
39             puts( "00000" );
40         } else {
41             puts( "#####" );
42             puts( "$$$$$" );
43             puts( "&&&&&" );
44         }
45     }
46
47     y = 7;
48
49     // TASK D
50     printf("\nTask D:\n");
51     if ( y == 8 ) {
52         if ( x == 5 ) {
53             puts( "00000" );
54         } else {
55             puts( "#####" );
56             puts( "$$$$$" );
57             puts( "&&&&&" );
58         }
59     }
60 }
```

```
EX3.31 > C main.c > ...
3  int main(void) {
33     }
34
35     // TASK C
36     printf("\nTask C:\n");
37     if ( y == 8 ) {
38         if ( x == 5 ) {
39             puts( "00000" );
40         } else {
41             puts( "#####" );
42             puts( "$$$$$" );
43             puts( "&&&&&" );
44         }
45     }
46
47     y = 7;
48
49     // TASK D
50     printf("\nTask D:\n");
51     if ( y == 8 ) {
52         if ( x == 5 ) {
53             puts( "00000" );
54         } else {
55             puts( "#####" );
56             puts( "$$$$$" );
57             puts( "&&&&&" );
58         }
59     }
60 }
```

```
Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.22 (main)
$ cd ../Ex3.31

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.31 (main)
$ gcc main.c -o run

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.31 (main)
$ ./run.exe
Task A:
00000
$$$$$
&&&&&

Task B:
00000

Task C:
00000
$$$$$
&&&&&

Task D:
#####
$$$$$
&&&&&

Administrator@DESKTOP-1ULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.31 (main)
$
```


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Code [Administrator]

main.c Ex4.11main.c Ex4.11main.c Ex4.26bash

EX4.11 > C main.c > ...
1 #include <stdio.h>
2
3 int main(void) {
4 int sum = 0;
5
6 for (int i=7; i<100; i=i+7) {
7 sum = sum + i;
8 }
9
10 printf("The sum of all multiples of 7 from 1 to 100 is %d", sum);
11 }

Administrator@DESKTOP-1JLGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex3.31 (main)
\$ cd ../Ex4.11

Administrator@DESKTOP-1JLGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.11 (main)
\$ gcc main.c -o run

Administrator@DESKTOP-1JLGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.11 (main)
\$./run.exe
The sum of all multiples of 7 from 1 to 100 is 735
Administrator@DESKTOP-1JLGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.11 (main)
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5:32 PM
6/7/2024

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Code [Administrator]

main.c Ex4.11main.c Ex4.12main.c Ex4.26bash

EX4.12 > C main.c > ...

```
1 #include <stdio.h>
2
3 int main(void) {
4     for (int number = 2; number <= 100; number++) {
5         int isPrime = 1;
6
7         for (int divisor = 2; divisor <= number/2; divisor++) {
8             if (number % divisor == 0) {
9                 isPrime = 0;
10                break;
11            }
12        }
13
14        if (isPrime == 1) {
15            printf("%d\n", number);
16        }
17    }
18 }
19
20 }
```

Administrator@DESKTOP-1JLGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.11 (main)

\$ cd ../Ex4.12

Administrator@DESKTOP-1JLGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.12 (main)

\$ gcc main.c -o run

Administrator@DESKTOP-1JLGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.12 (main)

\$./run.exe

2

3

5

7

11

13

17

19

23

29

31

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97

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5:33 PM6/7/2024

VS Code interface showing a C program for approximating Pi using the Leibniz formula. The program calculates the number of terms required to reach four different precision levels (3.14, 3.141, 3.1415, 3.14159).

```
1 #include <stdio.h>
2
3 int main() {
4     double pi = 0.0;
5     int n = 0;
6     int sign = 1;
7     double term;
8     int precision1 = 0, precision2 = 0, precision3 = 0, precision4 = 0;
9
10    printf("Terms\tApproximation of Pi\n");
11    printf("-----\n");
12
13    do {
14        term = sign * (4.0 / (2 * n + 1));
15        pi += term;
16        sign = -sign;
17        n++;
18
19        printf("%d\t%.15f\n", n, pi);
20
21        if (!precision1 && pi >= 3.14 && pi < 3.15) precision1 = n;
22        if (!precision2 && pi >= 3.141 && pi < 3.142) precision2 = n;
23        if (!precision3 && pi >= 3.1415 && pi < 3.1416) precision3 = n;
24        if (!precision4 && pi >= 3.14159 && pi < 3.14160) precision4 = n;
25    } while (precision4 == 0);
26
27    printf("\nTerms required to reach:\n");
28    printf("3.14: %d\n", precision1);
29    printf("3.141: %d\n", precision2);
30    printf("3.1415: %d\n", precision3);
31    printf("3.14159: %d\n", precision4);
32
33    return 0;
34 }
35
```

Output (Terminal):

```
136088 3.141585305403281
136089 3.141600001722221
136090 3.141585305511271
136091 3.141600001614232
136092 3.141585305619258
136093 3.141600001506247
136094 3.141585305727242
136095 3.141600001398265
136096 3.141585305835223
136097 3.141600001290286
136098 3.141585305943200
136099 3.141600001182310
136100 3.141585306051175
136101 3.141600001074338
136102 3.141585306159146
136103 3.141600000966369
136104 3.141585306267114
136105 3.141600000858402
136106 3.141585306375079
136107 3.141600000750439
136108 3.141585306483040
136109 3.141600000642479
136110 3.141585306590999
136111 3.141600000534523
136112 3.141585306698954
136113 3.141600000426569
136114 3.141585306806906
136115 3.141600000318618
136116 3.141585306914854
136117 3.141600000210671
136118 3.141585307022800
136119 3.141600000102727
136120 3.141585307130743
136121 3.14159999994786
```

Terms required to reach:

```
3.14: 119
3.141: 1688
3.1415: 10794
3.14159: 136121
```

Administrator@DESKTOP-1JULGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex4.26 (main)

\$



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Code [Administrator]

main.c Ex5.16main.c Ex5.18 X

bash X

EX5.18 > C main.c > ...

```
1  #include <stdio.h>
2
3  int isEven(int number) {
4      if (number % 2 == 0) {
5          return 1;
6      } else {
7          return 0;
8      }
9  }
10
11 int main(void) {
12     int integer;
13
14     while (integer != 0) {
15         printf("Enter an Integer (Enter 0 to exit): ");
16         scanf("%d", &integer);
17
18         if (isEven(integer) == 0) {
19             printf("%d is an odd number\n", integer);
20         } else {
21             printf("%d is an even number\n", integer);
22         }
23     }
24 }
```

Administrator@DESKTOP-1UJGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex5.16 (main)

\$ cd ../Ex5.18

Administrator@DESKTOP-1UJGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex5.18 (main)

\$ gcc main.c -o run

Administrator@DESKTOP-1UJGF16 MINGW64 ~/Desktop/JUBRIL/Code/Ex5.18 (main)

\$./run.exe

Enter an Integer (Enter 0 to exit): 6

6 is an even number

Enter an Integer (Enter 0 to exit): 9

9 is an odd number

Enter an Integer (Enter 0 to exit): 3

3 is an odd number

Enter an Integer (Enter 0 to exit): 2

2 is an even number

Enter an Integer (Enter 0 to exit): 0

0 is an even number

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5:45 PM 6/7/2024