

IZUCHUKWU CHIDERA VICTOR
18/ENG05/024
MECHATRONICS

STRUCTURES COMPUTER PROGRAMMING

QUESTION ONE

*main.c (days to years) - Code::Blocks 20.03

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*main.c X *main.c X *main.c X *main.c X *main.c X

```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  int main()
5  {
6      int ndays = 1343, days, weeks, year;
7      year= ndays/365;
8      weeks = (ndays % 365)/7;
9      days= (ndays % 365)%7;
10
11     printf("1343 days when converted is equivalent to %d years,%d weeks and %d days.\n", year, weeks, days);
12     return 0;
13 }
14
```

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QUESTION TWO

```
*main.c (distance) - Code::Blocks 20.03
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*main.c X *main.c X *main.c X *main.c X *main.c X
1  /*
2  Program to calculate the distance between two points
3  */
4  #include <stdio.h>
5  #include <stdlib.h>
6
7  int main()
8  {
9      float x1,x2,y1,y2, distance, distx, disty, A;
10     printf("\n enter the value of x1 ");
11     scanf("%f", &x1);
12     printf("\n enter the value of x2 ");
13     scanf("%f", &x2);
14     printf("\n enter the value of y1 ");
15     scanf("%f", &y1);
16     printf("\n enter the value of y2 ");
17     scanf("%f", &y2);
18     {
19         distx = (x2-x1)^2;
20         disty = (y2-y1)^2;
21         A = distx + disty
22         distance = sqrt(A);
23     }
24     printf("distance between the points is %f\n",distance);
25     return 0;
26 }
```

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QUESTION THREE

```
1  /*
2  Program to read three floating variables and check if it is possible to make a triangle
3  */
4  #include <stdio.h>
5  #include <stdlib.h>
6
7  int main()
8  {
9      float x,y,z, P, A;
10     printf("\n enter the first value ");
11     scanf("%f", &x);
12     printf("\n enter the second value ");
13     scanf("%f", &y);
14     printf("\n enter the third value ");
15     scanf("%f", &z);
16     {
17         if(x < (y+z) && y < (x+z) && z < (y+z))
18         {
19             P = x+y+z;
20
21             printf("Perimeter of the triangle is %f\n", P );
22         }
23         else
24         {
25             printf("It is not possible to create a triangle with these values" );
26         }
27     }
28
29     return 0;
30 }
31
```

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QUESTION FOUR

```
1  /*
2  Program to read ages
3  */
4  #include <stdio.h>
5  #include <stdlib.h>
6
7  int main()
8  {
9      int age, cnt_baby= 0, cnt_school = 0, cnt_adult = 0, count = 0;
10     while (count < 20){
11         printf("\n Enter the person's age ");
12         scanf("%d", &age);
13
14         if (age >= 0 && age <= 4){
15             cnt_baby++;
16         }
17         else if (age >= 5 && age <= 17{
18             cnt_school++;
19         }
20         else{
21             cnt_adult++;
22         }
23         count++;
24
25     }
26     printf("Baby age is %d\n", cnt_baby);
27     printf("School age is %d\n", cnt_school);
28     printf("Adult age is %d\n", cnt_adult);
29     return 0;
30 }
```

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QUESTION FIVE

```
/*  
Program to read random number and ask the user to guess it  
*/  
#include <stdio.h>  
#include <stdlib.h>  
  
int main()  
{  
    int num, guess;  
    int tries = 0;  
    srand(time(0)); /* seed random number generator */  
    num = rand() % 100 + 1; /* random number between 1 and 100 */  
  
    do  
    {  
        printf("Enter a guess between 1 and 100 : ");  
        scanf("%d", &guess);  
        tries++;  
  
        if (guess > num)  
        {  
            printf("Nice try but too high!\n");  
        }  
        else if (guess < num)  
        {  
            printf("Nice try but too low!\n");  
        }  
        else  
        {  
            printf("Bravo. Correct answer and in %d tries\n", tries);  
        }  
    }while (guess != num);  
  
    return 0;  
}
```