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**Q)1**

#include <stdbool.h>

#include <stdio.h>

bool calculateBox (double length, double width, double height, double

\*surfaceArea, double \*volume){

if (length > 0 & width > 0 & height > 0){

\*surfaceArea = (2\*length\*width)+(2\*length\*height)+(2\*width\*height);

\*volume = length\*width\*height;

return true;

}

else return false;

}

int main()

{

double length,width,height,surfaceArea,volume;

bool box;

printf("Enter length: ");

scanf("%lf",&length);

printf("Enter width: ");

scanf("%lf",&width);

printf("Enter height: ");

scanf("%lf",&height);

box = calculateBox (length, width, height, &surfaceArea, &volume);

if(box == true){

printf("Surface Area of box %fl \n", surfaceArea);

printf("Volume of box: %fl \n", volume);

}

else{

printf("incorrect input");

}

return 0;

}Text

Description automatically generated

**Q2)**

#include <stdio.h>

#include<stdlib.h>

#include<time.h>

void tossDie(int dice[6]){

srand(time(NULL));

for (int i = 0; i < 6; i++){

dice[i] = rand() %6 + 1;

}

}

int main()

{

int dice[6], toss;

tossDie(dice);

for (int i = 0; i < 6; i++){

printf("%d ", dice[i]);

}

return 0;

}

Text

Description automatically generated

**Q3)**

#include <stdio.h>

#include <ctype.h>

int main()

{

char string[200];

int count=0, i,chr1;

printf("Enter your first name:");

fgets(string,200,stdin);

printf("upper case name: ");

for (i = 0 ; string[i] != '\0' ; i++){

chr1 = string[i];

printf("%c",toupper(chr1));

}

printf("number of characters: %d",(i-1));

return 0;

}

Text

Description automatically generated

**Q4)**

#include <stdio.h>

#include <string.h>

void sort(char name[6][20]){

char temp[20];

for (int i = 0 ; i < 6 ; i++){

for(int j = i + 1 ; j < 6 ; j++){

if (strcmp(name[i],name[j]) > 0){

strcpy(temp,name[i]);

strcpy(name[i],name[j]);

strcpy(name[j],temp);

}

}

}

printf("\n provinces in alphabetical order: ");

for (int i = 0 ; i < 6 ; i++){

printf("\n %s",name[i]);

}

}

int main()

{

char name[6][20] = {"Ontario","Quebec","Manitoba","Alberta","British Colombia","Nova Scotia"};

sort(name);

return 0;

}

Text

Description automatically generated