# Question 1

//wap to generate the output 10,20 and 19   
// generate 19 after using decrement operator on 20  
  
# include <stdio.h>  
  
int main(){  
 int num;  
 printf("enter the number which you want to decrement \n");  
 scanf("%d",&num);  
 const int n1=10;  
 printf("%d %d %d",n1,num,num--);  
  
 return 0;  
  
}

# Question 2

# include <stdio.h>  
  
int main(){  
 float radius;  
 printf("enter the radius of the sphere for which you want the volume\n");  
 scanf("%f",&radius);  
  
 float volume=(4\*22\*radius\*radius\*radius)/21;  
  
 printf("%f",volume);  
}

# Question 3

# include <stdio.h>  
  
int main(){  
 int side1,side2,side3;  
printf("enter the first number\n");  
scanf("%d",&side1);  
printf("enter the second number\n");  
scanf("%d",&side2);  
printf("enter the third number\n");  
scanf("%d",&side3);  
  
if(side1+side2>side3 && side2+side3>side1 && side1+side3>side2){  
 printf("yes the triangle can be formed\n");  
  
 if(side1==side2 && side2==side3 ){  
 printf("traingle is equilateral\n");  
 }  
 else if(side1==side2 || side2==side3 || side3==side1){  
 printf("the triangle is isosceles\n");  
 }  
 else{  
 printf("triangle is scalene\n");  
 }  
  
}  
else{  
 printf("triangle cannot be formed");  
}  
  
  
}

# Question 4

# include <stdio.h>  
  
int main(){  
 int num;  
 printf("enter the number which you want to check for the sign\n");  
 scanf("%d",&num);  
 if(num>=0){  
 printf("The number is positive\n");  
 if(num%2==0){  
 printf("Number is even also\n");  
 }  
 else{  
 printf("Number is odd\n");  
 }  
 }  
 else {  
 printf("The number is negative");  
 }  
  
  
 return 0;  
}

# Question 5

// 5. Write a program to read a character in upper case and then print it in lower case  
# include <stdio.h>  
  
int main(){  
 char ch;  
 printf("please enter the character which you want to make in lowercase\n");  
 scanf("%c",&ch);  
 printf("the lower case character is %c ",ch+32);  
  
 return 0;  
}

# Question 6

// 6. Write a program, which takes two integer numbers as input and it shows their  
// exchanged value. (Don’t use third variable)  
  
# include <stdio.h>  
  
int main(){  
 int num1,num2;  
 printf("enter the two integer numbers which you want to change the values\n");  
 scanf("%d %d",&num1,&num2);  
  
 printf("%d %d before swapping \n",num1,num2);  
 num1=num1+num2;  
 num2=num1-num2;  
 num1=num1-num2;  
 printf("%d %d after swapping \n",num1,num2);  
   
 return 0;  
}

# Question 7

// 7. Write a menu driven program in which use can take choice as.  
// Addition Subtraction Multiplication Divide Modulo  
// After taking the choice from user it should do the desired operation. In case of  
// division of dividend is zero, program should display a warning that cannot divide.  
  
# include <stdio.h>  
  
int menu(int num1, int num2, int choice) {  
 switch(choice) {  
 case 1: // Addition  
 return num1 + num2;  
  
 case 2: // Subtraction  
 return num1 - num2;  
  
 case 3: // Multiplication  
 return num1 \* num2;  
  
 case 4: // Division  
 if (num2 != 0) {  
 return num1 / num2;  
 } else {  
 printf("Division by zero not possible\n");  
 return 0;  
 }  
  
 case 5: // Modulo  
 if (num2 != 0) {  
 return num1 % num2;  
 } else {  
 printf("Modulo by zero not possible\n");  
 return 0;  
 }  
  
 default:  
 printf("Invalid choice\n");  
 return 0;  
 }  
}  
  
int main() {  
 int num1, num2, choice;  
  
 while (1) { // infinite loop until user exits  
 printf("\n---- Menu ----\n");  
 printf("1. Addition\n");  
 printf("2. Subtraction\n");  
 printf("3. Multiplication\n");  
 printf("4. Division\n");  
 printf("5. Modulo\n");  
 printf("6. Exit\n");  
 printf("Enter your choice: ");  
 scanf("%d", &choice);  
  
 if (choice == 6) { // Exit condition  
 printf("Exiting program...\n");  
 break;  
 }  
  
 printf("Enter the first number: ");  
 scanf("%d", &num1);  
  
 printf("Enter the second number: ");  
 scanf("%d", &num2);  
  
 int result = menu(num1, num2, choice);  
  
 printf("The result is: %d\n", result);  
 }  
  
 return 0;  
}

# Question 8

// 8. Write a program, which will find out the largest of three inputs given by the user ,  
// only use if and else if ladder .  
# include <stdio.h>  
  
int main(){  
 printf("enter the three numbers which you want to compare\n");  
 int a,b,c;  
 scanf("%d%d%d",&a,&b,&c);  
  
 if(a>b){  
 if(a>=c){  
 printf("%d is the largest of three ",a);  
 }  
 else if(a<=c){  
 printf("%d is the largest",c);  
  
 }  
 }  
 else{  
 if(b>=c){  
 printf("%d is the largest of three",b);  
 }  
 if(c>=b){  
 printf("%d is the largest",c);  
  
 }  
 }  
  
 return 0;  
}

# Question 9

// 9. Write a program to print the ASCII value of a character.  
  
# include <stdio.h>  
  
int main(){  
 char ch;  
 printf("enter the character for which you want to print the ascii value\n");  
 scanf("%c",&ch);  
  
 printf("%d",(int)ch);  
  
 return 0;  
}

# Question 10

// 10. Write a program which take three inputs one as principal and second rate, third as  
// time and calculate the simple interest.  
  
#include <stdio.h>  
  
int main() {  
 float principal, rate, time, simpleInterest;  
  
 // Taking inputs  
 printf("Enter Principal amount: ");  
 scanf("%f", &principal);  
  
 printf("Enter Rate of interest: ");  
 scanf("%f", &rate);  
  
 printf("Enter Time (in years): ");  
 scanf("%f", &time);  
  
 // Calculating Simple Interest  
 simpleInterest = (principal \* rate \* time) / 100;  
  
 // Printing result  
 printf("Simple Interest = %f\n", simpleInterest);  
  
 return 0;  
}