SELF STUDY QUESTIONS AND RAW CODES

1. C PROGRAM TO CHECK WHETHER A NUMBER IS NEGATIVE, POSITIVE OR ZERO

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int

main ()

{

int num;

printf ("Enter a number: ");

scanf("%d", &num);

if(num>0){

printf("%d is a positive number", num);

}

else if (num<0){

printf("%d is negative", num);

}

else

printf("%d is a equal to zero", num);

return 0;

}

2. C PROGRAM TO CHECK WHETHER NUMBER IS DIVISIBLE BY 5 & 11 OR NOT

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

int num;

printf("Enter a number : ");

scanf("%d", &num);

if(num%5==0 && num%11==0)

{

printf("The number entered is divisible by 5 & 11.");

}

else if (num%5==0)

{

printf("The number entered is only divisible by 5.");

}

else if (num%11==0)

{

printf("The number entered is only divisible by 11.");

}

else

{

printf("The number entered is neither divisble by 5 nor by 11.");

}

return 0;

}

3. C PROGRAM TO CHECK WHETHER NUMBER IS EVEN OR ODD

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

int num;

printf("Enter a number : ");

scanf("%d", &num);

if(num%2==0)

{

printf("The number is an even number.");

}

else

{

printf("The number is an odd number.");

}

return 0;

}

4. C PROGRAM TO CHECK WHETHER A YEAR ISA LEAP YEAR OR NOT

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

int num;

printf("Enter a year : ");

scanf("%d", &num);

if(num%4==0)

{

printf("It is a leap year.");

}

else

{

printf("It is not a leap year.");

}

return 0;

}

5. C PROGRAM TO CHECK WHETHER CHARACTER IS AN ALPHABET OR NOT

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

char c;

printf("Enter an alphabet: ");

scanf("%c", &c);

if ((c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z'))

printf("%c is an alphabet.", c);

else

printf("%c is not an alphabet.", c);

return 0;

}

6. C PROGRAM TO CHECK WHETHER AN ALPHABET IS A VOWEL OR A CONSONANT

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

char c;

int lowercase\_Vowel, uppercase\_Vowel;

printf("Enter an alphabet : ");

scanf("%c", &c);

lowercase\_Vowel = (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u');

uppercase\_Vowel = (c == 'A' || c == 'E' || c == 'I' || c == 'O' || c == 'U');

if(lowercase\_Vowel || uppercase\_Vowel){

printf("The alphabet is a vowel.");

}

else{

printf("The alphabet is a constant.");

}

return 0;

}

7. C PROGRAM TO INPUT ANY CHARACTER AND CHECK WHETHER IT IS ALPHABET, DIGIT, OR SPECIAL CHARACTER

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

char c;

printf("Enter any character : ");

scanf("%c", &c);

if((c>='a' && c<='z') || (c>='A' && c<='Z')){

printf("It is an alphabet.");

}

else if(c>='0' && c<= '9' ){

printf("It is a digit.");

}

else{

printf("It is a special character");

}

return 0;

}

8. C PROGRAM TO CHECK WHETHER A CHARACTER IS AN UPPERCASE OR LOWERCASE ALPHABET

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

char c;

printf("Enter any character : ");

scanf("%c", &c);

if(c>='a' && c<='z'){

printf("The alphabet is in lowercase.");

}

else{

printf("The alphabet is in uppercase.");

}

return 0;

}

9. C PROGRAM TO INPUT WEEK NUMBER AND PRINT WEEK DAY

#include <stdio.h>

int main()

{

int week;

printf("Enter week number (1-7): ");

scanf("%d", &week);

if(week == 1)

{

printf("Monday");

}

else if(week == 2)

{

printf("Tuesday");

}

else if(week == 3)

{

printf("Wednesday");

}

else if(week == 4)

{

printf("Thursday");

}

else if(week == 5)

{

printf("Friday");

}

else if(week == 6)

{

printf("Saturday");

}

else if(week == 7)

{

printf("Sunday");

}

else

{

printf("Invalid Input! Please enter week number between 1-7.");

}

return 0;

}

10. C PROGRAM TO INPUT MONTH NUMBER AND PRINT NUMBER OF DAYS IN THAT MONTH

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

int month\_num;

printf("Enter number of the month (1-12): ");

scanf("%d", &month\_num);

if((month\_num == 1||month\_num == 3||month\_num == 5||month\_num ==7||month\_num ==8||month\_num ==10||month\_num == 12)){

printf("The month has 31 days.");

}

else if((month\_num == 4|| month\_num == 6||month\_num == 9||month\_num ==11)){

printf("The month has 30 days.");

}

else if(month\_num == 2){

printf("The month has 28/29 days");

}

else{

printf("Enter valid number of month between 1-12.");

}

return 0;

11. C PROGRAM TO COUNT TOTAL NUMBER OF NOTES GIVEN IN AMOUNT

#include <stdio.h>

int main()

{

int amount;

int note500, note100, note50, note20, note10, note5, note2, note1;

note500 = note100 = note50 = note20 = note10 = note5 = note2 = note1 = 0;

printf("Enter amount: ");

scanf("%d", &amount);

if(amount >= 500)

{

note500 = amount/500;

amount -= note500 \* 500;

}

if(amount >= 100)

{

note100 = amount/100;

amount -= note100 \* 100;

}

if(amount >= 50)

{

note50 = amount/50;

amount -= note50 \* 50;

}

if(amount >= 20)

{

note20 = amount/20;

amount -= note20 \* 20;

}

if(amount >= 10)

{

note10 = amount/10;

amount -= note10 \* 10;

}

if(amount >= 5)

{

note5 = amount/5;

amount -= note5 \* 5;

}

if(amount >= 2)

{

note2 = amount /2;

amount -= note2 \* 2;

}

if(amount >= 1)

{

note1 = amount;

}

printf("Total number of notes = \n");

printf("500 = %d\n", note500);

printf("100 = %d\n", note100);

printf("50 = %d\n", note50);

printf("20 = %d\n", note20);

printf("10 = %d\n", note10);

printf("5 = %d\n", note5);

printf("2 = %d\n", note2);

printf("1 = %d\n", note1);

return 0;

}

12. C PROGRAM TO INPUT ANGLES OF A TRIANGLE AND CHECK WHETHER TRIANGLE IS VALID OR NOT

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

float ang1, ang2, ang3, cond;

printf("Enter the measurement of the first angle of the traingle: ");

scanf("%f", &ang1);

printf("Enter the measurement of the second angle of the triangle: ");

scanf("%f", &ang2);

printf("Enter the measurement of the third angle of the triangle: ");

scanf("%f", &ang3);

if(ang1+ang2+ang3 == 180){

printf("It is a valid triangle");

}

else{

printf("It is not a valid triangle.");

}

return 0;

}

13. C PROGRAM TO INPUT ALL SIDES OF THE TRIANGLE AND CHECK WHETHER TRIANGLE IS VALID OR NOT

include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

float a, b, c;

printf("Enter three sides of the triangle: \n");

scanf("%f%f%f", &a, &b, &c);

if((a<b+c)||(b<a+c)||(c<a+b)){

printf("It is a valid triangle");

}

else{

printf("It is not a valid triangle.");

}

return 0;

}

14. C PROGRAM TO CHECK WHETHER THE TRIANGLE IS EQUILATERAL, ISOSCELES OR SCALENE

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

float a, b, c;

printf("Enter three sides of the triangle: \n");

scanf("%f%f%f", &a, &b, &c);

if(a==b && b==c){

printf("It is an equilateral triangle.");

}

else if(a==b || a==c || b==c){

printf("It is an isosceles triangle.");

}

else{

printf("It is a scalene triangle.");

}

return 0;

}

15. C PROGRAM TO FIND ALL ROOTS OF QUADRATIC EQUATION

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

int a, b, c, root1, root2, discriminant, realPart, Imaginarypart;

printf("Enter coefficients a,b & c : ");

scanf("%d%d%d", &a, &b, &c);

discriminant = b\*b-4\*a\*c;

if(discriminant>0){ /\*condition for real and different roots\*/

root1 = (-b+sqrt(discriminant))/(2\*a);

root2 = (b-sqrt(discriminant))/(2\*a);

printf("Root 1 = %d and Root 2 = %d", root1, root2);

}

else if(discriminant==0){ /\*condition for real and equal roots\*/

root1 = root2 = -b / (2\*a);

printf("Root 1 = Root 2 =%d", root1);

}

else{ /\*condition if the roots are not real\*/

realPart = -b/(2\*a);

Imaginarypart = sqrt(-discriminant)/(2\*a);

printf("Root 1 = %d+ %d & Root 2 = %d-%d", realPart, Imaginarypart, realPart, Imaginarypart);

}

return 0;

}

16. C PROGRAM TO CHECK PROFIT OR LOSS

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main()

{

int cp, sp, amt;

printf("Enter the cost price of the product: ");

scanf("%d", &cp);

printf("Enter the selling price of the product: ");

scanf("%d", &sp);

if(sp>cp){

amt = sp-cp;

printf("PROFIT = %d", amt);

}

else if(sp<cp){

amt = cp-sp;

printf("LOSS = %d", amt);

}

else{

printf("No PROFIT NO LOSS");

}

return 0;

}

17. C PROGRAM TO INPUT ELECTRICITY UNIT CHARGES AND CALCULATE TOTAL ELECTRICITY BILL ACCORDING TO THE GIVEN CONDITIONS

#include <stdio.h>

int main()

{

int unit;

float amt, total\_amt, sur\_charge;

printf("Enter total units consumed: ");

scanf("%d", &unit);

if(unit <= 50)

{

amt = unit \* 0.50;

}

else if(unit <= 150)

{

amt = 25 + ((unit-50) \* 0.75);

}

else if(unit <= 250)

{

amt = 100 + ((unit-150) \* 1.20);

}

else

{

amt = 220 + ((unit-250) \* 1.50);

}

sur\_charge = amt \* 0.20;

total\_amt = amt + sur\_charge;

printf("Electricity Bill = Rs. %.2f", total\_amt);

return 0;

}