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CSC206 PRACTICE QUESTION II

15.// program to find prime factor of a number

 #include <stdio.h>

 int main()

 {

int counter, N; i, isPrime;

printf("Enter a Number ");

 scanf("%d", &N);

 Printf("List of Prime Factors of %d ", N);

 /\*Check for every number between 1 to N, whether it divides N \*/

for(counter = 2; conter <= N; counter++);

{

 /\* If counter completely divides N, then it is a factor of N\*/

if(N%counter=0)

{

/\* Check if counter is also a prime number \*/

isPrime == 1;

for(i = 2; i <=(counter/2); i++)

 {

 if(counter%i==0)

{

 isPrime=0;

 break ;

}

}

 if(isPrime==1)

{

printf("%d ", counter);

 }

 }

return 0;

 }

16.Operators are the symbols which are used to perform ogical and mathematical operators in a c program.

Types of operators

1.Arithmaetic operators:These are used to perform mathematical calculations like addition, subtraction, multiplication, division and modulus. There are 7 arithmetic operators in C programming and there are; +(Addition),-(Subtraction),\*(multiplication),/(Division),%(modulus),++(Increment),--(decrement).

2.Relational operators:These operators are sued to compare the value of two variables. There are 6 relational operators and they are; ==(Checks if the operands are equal to each other), !=(Checks if the values of the operands are not equal to each other), >(Checks if the left operand is greater than the right operand), <(Checks if the value of left operand is less than the value of the right operand), >=(Checks if the value of left operand is greater than or equal to the value of the right operand), <=(Checks if the value of left operand is less than or equal to the vlue of right operand).

3.Logical operator:These operators are used to perform logical operations on the given two variables. There are 3 logical operators and they are; &&(AND operator),||(OR operator), !(NOT operator).

4.Assignment operator:These are used to assign the values for the variables in C programs. There are 11 assignment operators and they are; =(Simple assignment operator), +=(add AND assignment operator),-=(Subtract AND assignment operator),\*=(Multiply AND assignment opertor),/=(Divide AND assignment operator), %=(Modulus AND assignment),<<=(Left shift AND assignment operator),>>=(Right shift AND assignment operator), &=(Bitwise AND assignment operator), ^=(Bitwise exclusive OR assignment operator), !=(Bitwise inclusive OR assignment operator).

5.Bitwise Operator:These operators are used to perform bit operations on given 2 variables. Bitwise operators work on bits and perform bit-by-bit operation.

6.Conditional Operator:Conditional operators return one value if condition is true and returns another value is condition is false.

7.Special Operators: It consists of; &(returns the address of a variable), \*(Pointer to a variable), sizeof()(returns the size of a variable),?;(Conditional Expression).

8.Increment and Decrement operator: These operators are used to either increase or decrease the value of the variable by one. Increment operator is ++, it maens add 1 to the value of the variable. Decrement operator --, it means remove 1 from the value of the variable.

17./\* c program to calculate simple interest\*/

#include <stdio.h>

int main()

{

 float amount,rate,time,si;

 printf("Enter principal :");

 scanf("%f",&amount);

 printf("Enter rate :");

 scanf("%f",&rate);

 printf("Enter time (in years) :");

 scanf("%f",&time);

 si=(amount\*rate\*time)/100;

 printf("\nSimple Interest is = %f",si);

 return 0;

}

NB:If you input N100,000 as your principal amount, 5% as your rate, and time as 4, your output will be 20,000 which is the simple interest.

18.#include<stdio.h>

int main()

{

int a ;

char card;

char nigerian;

printf("Enter the age of the person: \n");

scanf("%d",&a);

printf("Do you have a card:\n ");

scanf("%c",&card);

printf("Are you Nigerian: \n");

scanf("%c",&nigerian);

//check voting eligibility

if (a>=18)

{

printf("Eigible for voting");

if (card="yes",nigerian="yes")

 {

 printf("Don't move further to vote\n");

 }

 else

 {

 printf("Not eligible for voting\n");

 }

}

else

{

printf("Not eligible for voting\n");

}

return 0;

}

19.#include<stdio.h>

int main;

{

float tmp;

printf("What is the temperature of the sick patient: ");

scanf("%.2f",&tmp);

if(tmp<36)

{

printf("You are sick\n");

}

else

{

printf("You aren't sick\n");

}

return0;

}

20.#include<stdio.h>

int main()

{

 char color;

 printf("Enter your color to choose your game: ");

 scanf("%c", &color);

 if(color="red")

 {

 printf("Football\n");

 if(color="white")

 {

 printf("Volleyball\n");

 if(color="pink")

 {

 printf("Rugby\n");

 if(color="yellow")

 {

 printf("Basketball\n");

 if(color="green")

 {

 printf("Baseball\n");

 if(color="magneta")

 {

 printf("Hockey\n");

 if(color="blue")

 {

 printf("Badmiton\n");

 }

 }

 }

 }

 }

 }

 }

 else

 {

 printf("Bro input something\n");

 }

 return 0;

}

21.

22. I.A<B = 30<10 =False

 II.A==B = 30==10 = False

 III. B<A = 10<30 = True

 IV.A>=B = 30>=10 =False

23.#include <stdio.h>

void main()

{

 int a,b,c,d;

 float e,f;

 printf("Input the value of a,b & c : ");

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

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

 if(d==0)

 {

 printf("Both roots are equal.\n");

 e=-b/(2.0\*a);

 f=e;

 printf("First Root Root1= %f\n",e);

 printf("Second Root Root2= %f\n",f);

 }

 else if(d>0)

 {

 printf("Both roots are real and diff-2\n");

 e=(-b+sqrt(d))/(2\*a);

 f=(-b-sqrt(d))/(2\*a);

 printf("First Root Root1= %f\n",e);

 printf("Second Root root2= %f\n",f);

 }

 else

 printf("Root are imeainary;\nNo Solution. \n");

}

24.#include <stdio.h>

int main()

{

 int num1=80, num2=50;

 int sum, sub, mult, mod;

 float div;

 sum = num1 + num2;

 sub = num1 - num2;

 mult = num1 \* num2;

 div = (float)num1 / num2;

 mod = num1 % num2;

 printf("The sum of the given numbers : %d\n", sum);

 printf("The difference of the given numbers : %d\n", sub);

 printf("The product of the given numbers : %d\n", mult);

 printf("The quotient of the given numbers : %f\n", div);

 printf("MODULUS = %d\n", mod);

 return 0;

}

25.#include<stdio.h>

int main()

{

 printf("\*\*\*\*\*\*\* \*\*\* \*\*\* \*\*\*\*\*\*\*");

 return 0;

}

26.#include<stdio.h>

int main()

{

 printf("\*\*\*\*\*\*\*\*\*\*\*\* \*\*\* \*\*\* \*\* \*\*\* \*\* \* \*\*\*\*\*\*\*\*\*\*\*\*");

 return 0;

}

27.#include <stdio.h>

int main() {

 int a;

 float b;

 double c;

 printf("Enter an integer: ");

 scanf("%d", &a);

 printf("Enter a float number: ");

 scanf("%f", &b);

 printf("Enter a double number: ");

 scanf("%lf", &c);

 printf("You entered: %d", a);

 printf("You entered: %f", b);

 printf("You entered: %lf", c);

 return 0;

}