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Review Question

1. In what ways are the initialization, repetition test, and update steps alike for a sentinel-controlled loop and an endfile-controlled loop? How are they different?

Jawaban:

1. Write a program that computes and displays the product of a collection of even numbers entered interactively until a sentinel value of 99 is entered.

Jawaban:

#include <stdio.h>

#define SENTINEL 99

int main (){

int n, sum;

do {

printf("Masukkan angka> ");

scanf("%d", &n);

if (n%2 == 0){

sum += n;

printf("Jumlah bilangan genap> %d\n\n", sum);

}

else {

printf("Masukkan angga GENAP bukan angka ganjil\n\n");

}

}

while (n!=SENTINEL);

return 0;

}

1. Hand trace the program that follows given the following data:

4 2 8 4 1 4 2 1 9 3 3 1 -22 10 8 2 3 3 4 5

#include <stdio.h>

#define SPECIAL\_SLOPE 0.0

int

main(void)

{

double slope, y2, y1, x2, x1;

printf("Enter 4 numbers separated by spaces.");

printf("\nThe last two numbers cannot be the ");

printf("same, but\nthe program terminates if ");

printf("the first two are.\n");

printf("\nEnter four numbers> ");

scanf("%lf%lf%lf%lf", &y2, &y1, &x2, &x1);

for (slope = (y2 - y1) / (x2 - x1);

slope != SPECIAL\_SLOPE;

slope = (y2 - y1) / (x2 - x1)) {

printf("Slope is %5.2f.\n", slope);

printf("\nEnter four more numbers> ");

scanf("%lf%lf%lf%lf", &y2, &y1, &x2, &x1);

}

return (0);

}

Jawaban:

Untuk input 4 2 8 4 maka hasilnya 0.50

Untuk input 1 4 2 1 maka hasilnya -3.00

Untuk input 9 3 3 1 maka hasilnya 3.00

Untuk input -22 10 8 2 maka hasilnya -5.33

Untuk input 3 3 4 5 maka program akan berhenti

1. Rewrite the program in Review Question 3 so that it uses a while loop.

Jawaban:

#include <stdio.h>

#define SPECIAL\_SLOPE 0.0

int

main(void)

{

double slope, y2, y1, x2, x1;

printf("Enter 4 numbers separated by spaces.");

printf("\nThe last two numbers cannot be the ");

printf("same, but\nthe program terminates if ");

printf("the first two are.\n");

printf("\nEnter four numbers> ");

scanf("%lf%lf%lf%lf", &y2, &y1, &x2, &x1);

slope = (y2 - y1) / (x2 - x1);

while (slope != SPECIAL\_SLOPE){

printf("Slope is %5.2f.\n", slope);

printf("\nEnter four more numbers> ");

scanf("%lf%lf%lf%lf", &y2, &y1, &x2, &x1);

slope = (y2 - y1) / (x2 - x1);

}

return (0);

}

1. Rewrite the program segment that follows, using a for loop:

product = 1;

i = 0;

while (i < n) {

scanf(“%d”, &a);

if (a != i)

product \*= a;

++i;

}

Jawaban:

product = 1;

for (i=0; i < n; i++) {

scanf(“%d”, &a);

if (a != i)

product \*= a;

}

1. Rewrite this do-while loop, adding any missed semicolons.

do {

printf(“Number = %d\n.”, num);

num-- } while (num > 0)

Jawaban:

do {

printf("Number = %d.\n", num);

num--;

}

while (num > 0);

1. Write a do-while loop that repeatedly prompts for and takes input until a value in the range 0 through 15 inclusive is input. Include code that prevents the loop from executing forever on input of a wrong data type.

Jawaban: