Table of Contents

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1. Assignment #4

1.1. Question 1

A function that returns the sum of two numbers.

```c
#include <stdio.h>

int AddNumbers(int a, int b);

int main() {

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

  printf("The sum of %d and %d is: %d", a, b, AddNumbers(a, b));

  return 0;
}

int AddNumbers(int a, int b) {

  return a + b;
}
```

1.2. Question 2

A function that multiplies three numbers.

```c
#include <stdio.h>

int MultiplyThree(int a, int b, int c);

int main() {

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

  printf("The product of %d, %d and %d is: ", a, b, c, MultiplyThree(a, b, c));

  return 0;
}

int MultiplyThree(int a, int b, int c) {

  return a * b * c;
}
```

1.3. Question 3

A functionn to check if a number is even or odd.

```c
#include <stdio.h>

int IsEven(int a);

int main() {

  int a;
  scanf("%d", &a);

  printf("The number %d is ", a);
  printf((!(IsEven(a))) ? "even.\n" : "odd.\n");
}

int IsEven(int a) {

  return (a % 2);
}
```

1.4. Question 4

A function to calculate tac baased on a 5% rate.

```c
#include <stdio.h>

void CalculateAndPrintDetails(double AmountPaid);

int main() {

  double AmountPaid;
  scanf("%lf", &AmountPaid);

  CalculateAndPrintDetails(AmountPaid);
}

void CalculateAndPrintDetails(double AmountPaid) {

  double tax, TotalProfit, TotalPaid;

  tax = AmountPaid * 0.05;

  if (tax < 5) {tax = 5;}
  else if (tax > 100) {tax = 100;}

  TotalProfit = AmountPaid - tax;

  printf("The amount paid is: %lf\nThe tax is: %lf\nThe total profit is: %lf\n", AmountPaid, tax, T
}
```

1.5. Question 5

A function that calculates the total cost after a discount then calculates the tax and profit.

```c
#include <stdio.h>

void CalculateAndPrintDetails(double AmountPaid);
void CalculateDiscountedTotal(double OriginalAmount, double DiscountRate);

int main() {

  double AmountPaid;
  scanf("%lf", &AmountPaid);

  double DiscountRate;
  scanf("%lf", &DiscountRate);

  CalculateDiscountedTotal(AmountPaid, DiscountRate);
  CalculateAndPrintDetails(AmountPaid);
}

void CalculateAndPrintDetails(double AmountPaid) {

  double tax, TotalProfit, TotalPaid;

  tax = AmountPaid * 0.05;

  if (tax < 5) {tax = 5;}
  else if (tax > 100) {tax = 100;}

  TotalProfit = AmountPaid - tax;

  printf("The amount paid is: %lf\nThe tax is: %lf\nThe total profit is: %lf\n", AmountPaid, tax, T
}

void CalculateDiscountedTotal(double OriginalAmount, double DiscountRate) {

  double new = OriginalAmount - OriginalAmount * 0.01 * DiscountRate;
  printf("New price after discount: %lf\n", new);
}
```

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