Name : _____

What is the output of the C program shown below?

```
#include <stdio.h>
#include <string.h>

void f(int *a, int *b) {
        *a = *a + *b;
        *b = *b - *a;
        return;
}
int main(void) {
        char str[]= "ABCDEFGHIJKLMNOPQRST";
        int a = strlen(str), b = 1;
        while (b < a) {
                printf("%c", str[b]);
                b = b * 2;
        }
        printf("\n");

        int x = 10, y = 5;
        f(&x, &y);
        printf("%d and %d\n", x, y);
        f(&x, &y);
        printf("%d and %d\n", x, y);
        return 0;
}
```

Instructor (circle) Cordes Zhang

CS 100 Exam 2

What is the output of the C program below using the file **data1** that is shown at the right?

```
1 4 5 9 10
```

```
#include <stdio.h>

int f1(int a) { return a * a; }
int f2(int a) { return a + a; }

int funct(int z) {
        if (z % 2 == 0)
                return z * f1(z);
        else
                return z + f2(z);
}
int main(void) {
        FILE *fp1 = fopen( "data1", "r" );
        int a;
        for (int x=0; x<5; x++) {
                fscanf(fp1, "%d", &a);
                printf( "%d\n", funct(a) );
        }
        fclose(fp1);
        return 0;
}
```

Name : _____

What is the output of the C program shown below?

```
#include <stdio.h>
#include <string.h>

void f(int *a, int *b) {
        *a = *a + *b;
        *b = *b - *a;
        return;
}
int main(void) {
        char str[]= "University of Alabama";
        int a = strlen(str), b = 1;
        while (b < a) {
                printf("%c", str[b]);
                b = b * 2;
        }
        printf("\n");

        int x = 4, y = 3;
        f(&x, &y);
        printf("%d and %d\n", x, y);
        f(&x, &y);
        printf("%d and %d\n", x, y);
        return 0;
}
```

Instructor (circle) Cordes Zhang

CS 100 Exam 2

What is the output of the C program below using the file **data1** that is shown at the right?

```
2 3 7 11 4
```

```
#include <stdio.h>

int f1(int a) { return a * a; }
int f2(int a) { return a + a; }

int funct(int z) {
        if (z % 2 == 0)
                return z * f1(z);
        else
                return z + f2(z);
}
int main(void) {
        FILE *fp1 = fopen( "data1", "r" );
        int a;
        for (int x=0; x<5; x++) {
                fscanf(fp1, "%d", &a);
                printf( "%d\n", funct(a) );
        }
        fclose(fp1);
        return 0;
}
```