SE1012 — Programming Methodology

Lab 09: String

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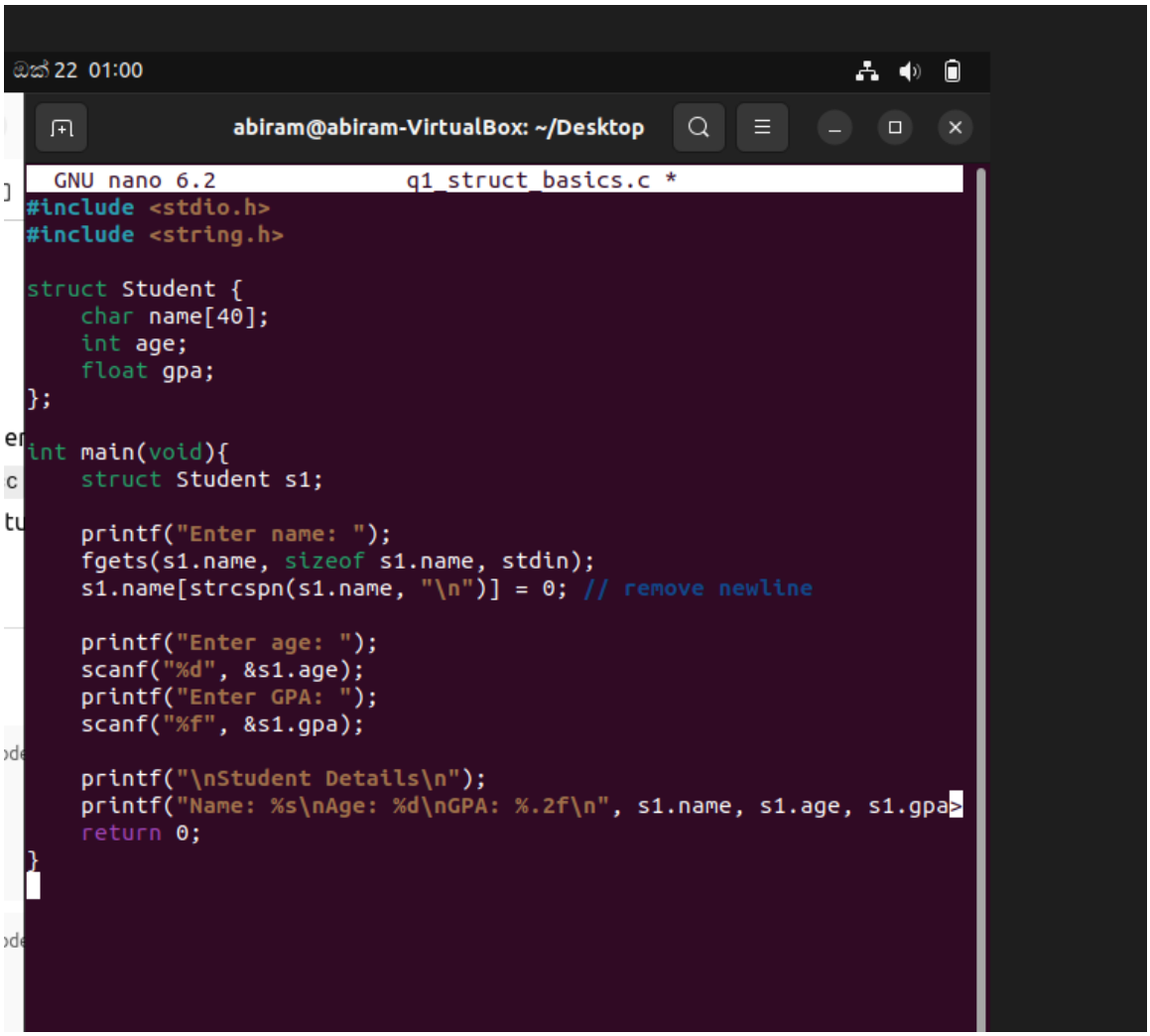
Q1)

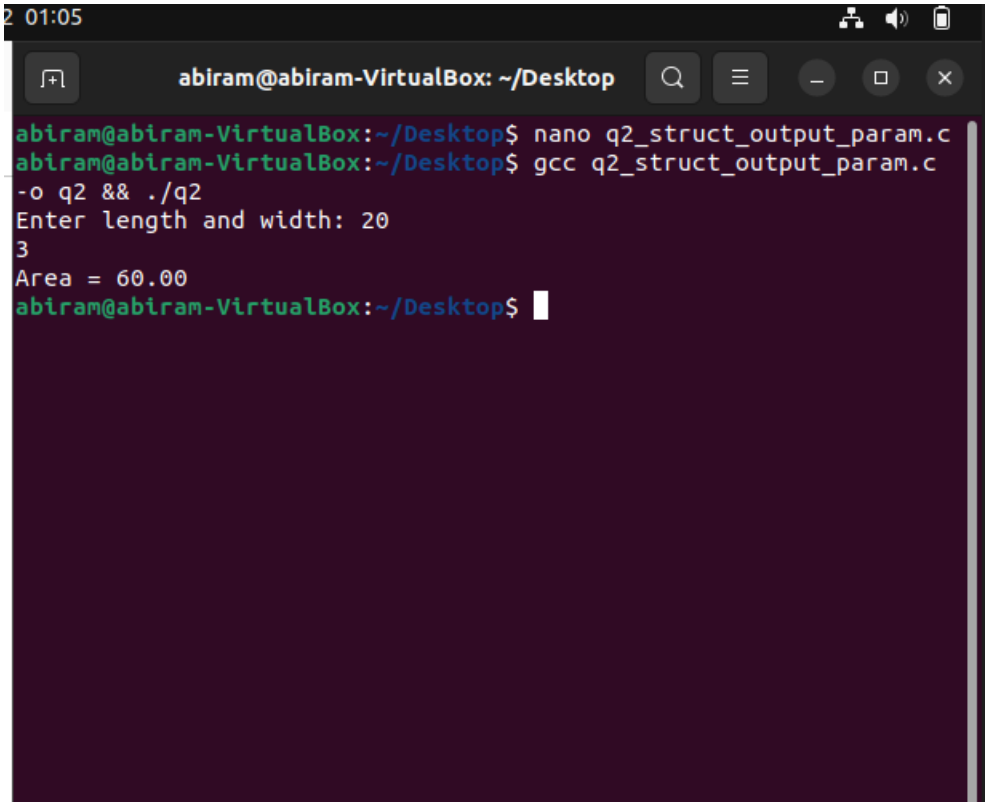
Code



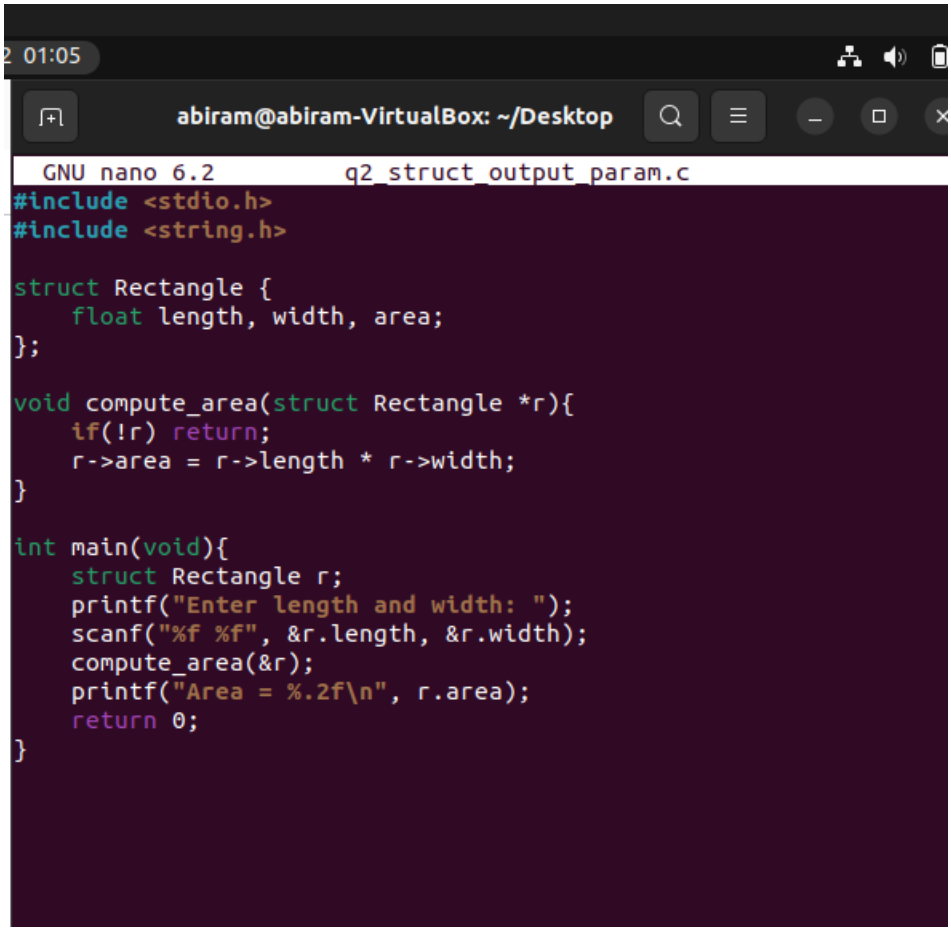
Output

Q2)

Code

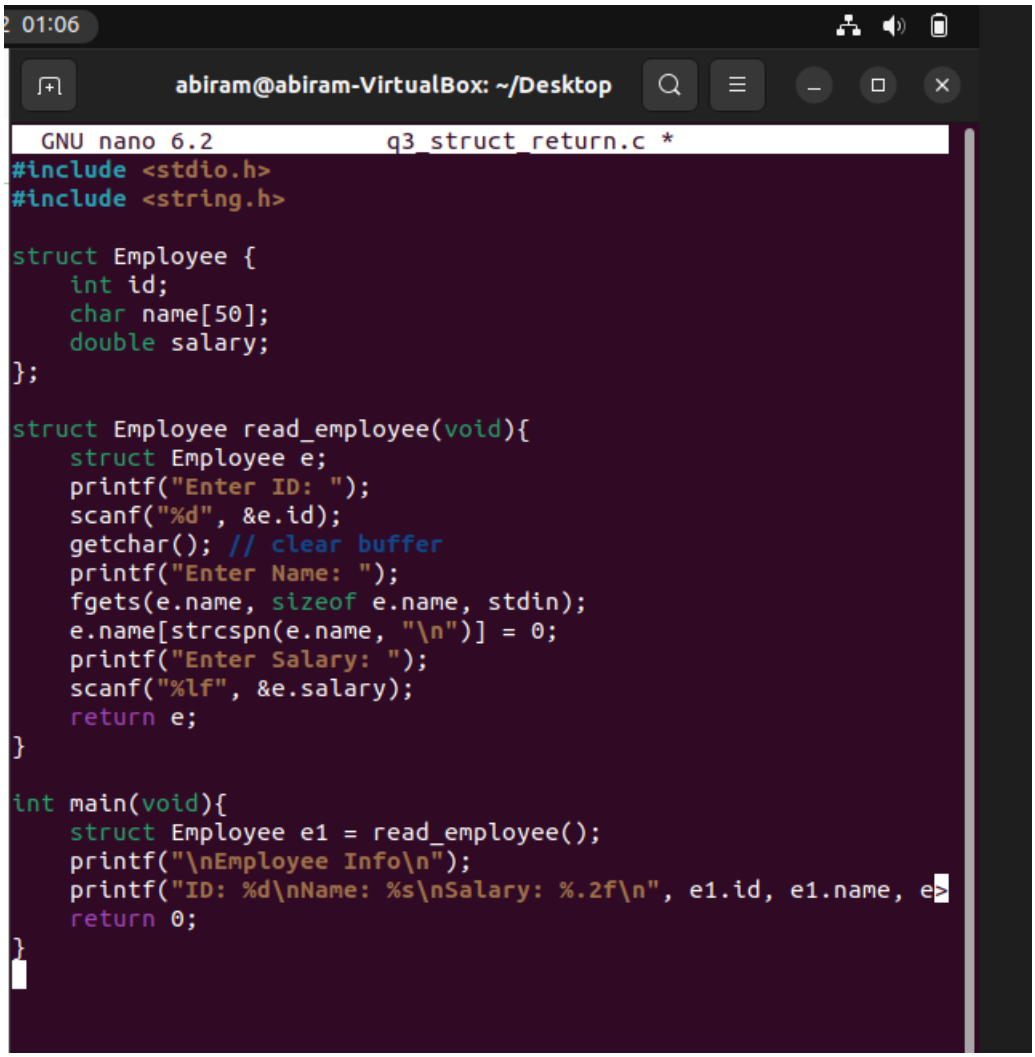


Output

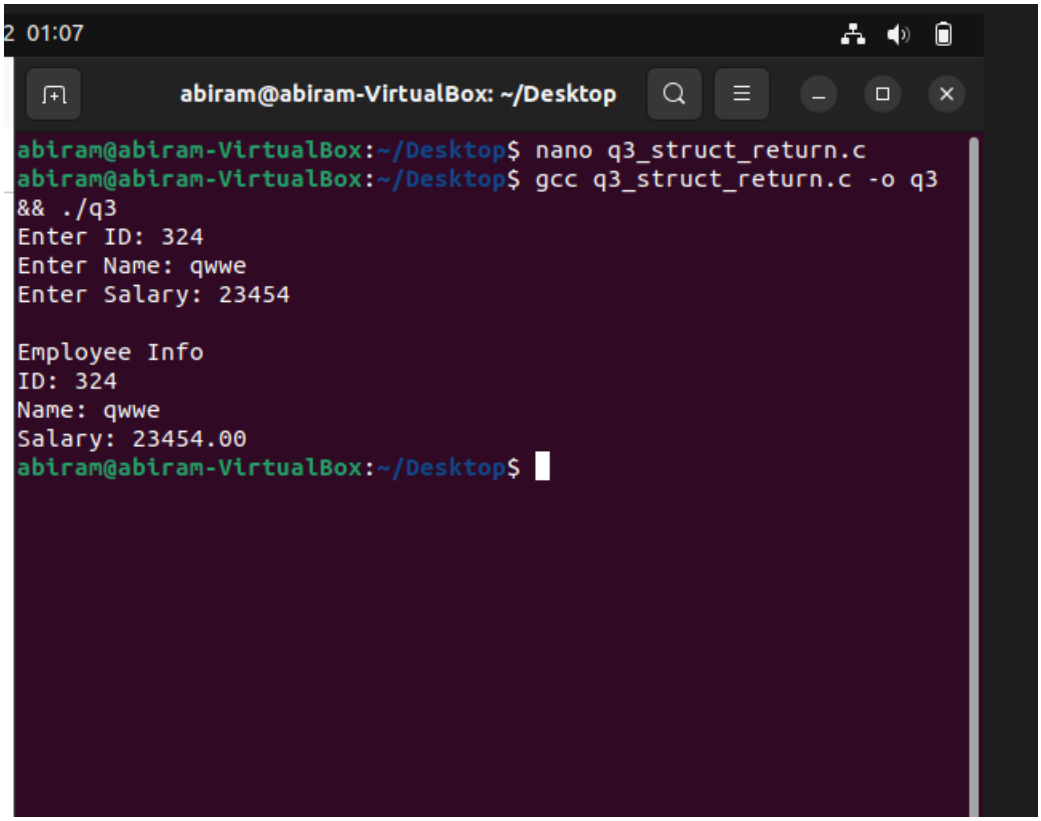

2 01:05
abiram@abiram-VirtualBox: ~/Desktop
GNU nano 6.2 q2_struct_output_param.c
#include <stdio.h>
#include <string.h>
struct Rectangle {
float length, width, area;
};
void compute_area(struct Rectangle *r){
if(!r) return;
r->area = r->length * r->width;
}
int main(void){
struct Rectangle r;
printf("Enter length and width: ");
scanf("%f %f", &r.length, &r.width);
compute_area(&r);
printf("Area = %.2f\n", r.area);
return 0;
}

Q3)

Code


01:06
abiram@abiram-VirtualBox: ~/Desktop
GNU nano 6.2 q3_struct_return.c *
#include <stdio.h>
#include <string.h>
struct Employee {
int id;
char name[50];
double salary;
};
struct Employee read_employee(void){
struct Employee e;
printf("Enter ID: ");
scanf("%d", &e.id);
getchar(); // clear buffer
printf("Enter Name: ");
fgets(e.name, sizeof e.name, stdin);
e.name[strcspn(e.name, "\n")] = 0;
printf("Enter Salary: ");
scanf("%lf", &e.salary);
return e;
}
int main(void){
struct Employee e1 = read_employee();
printf("\nEmployee Info\n");
printf("ID: %d\nName: %s\nSalary: %.2f\n", e1.id, e1.name, e
return 0;
}

Output

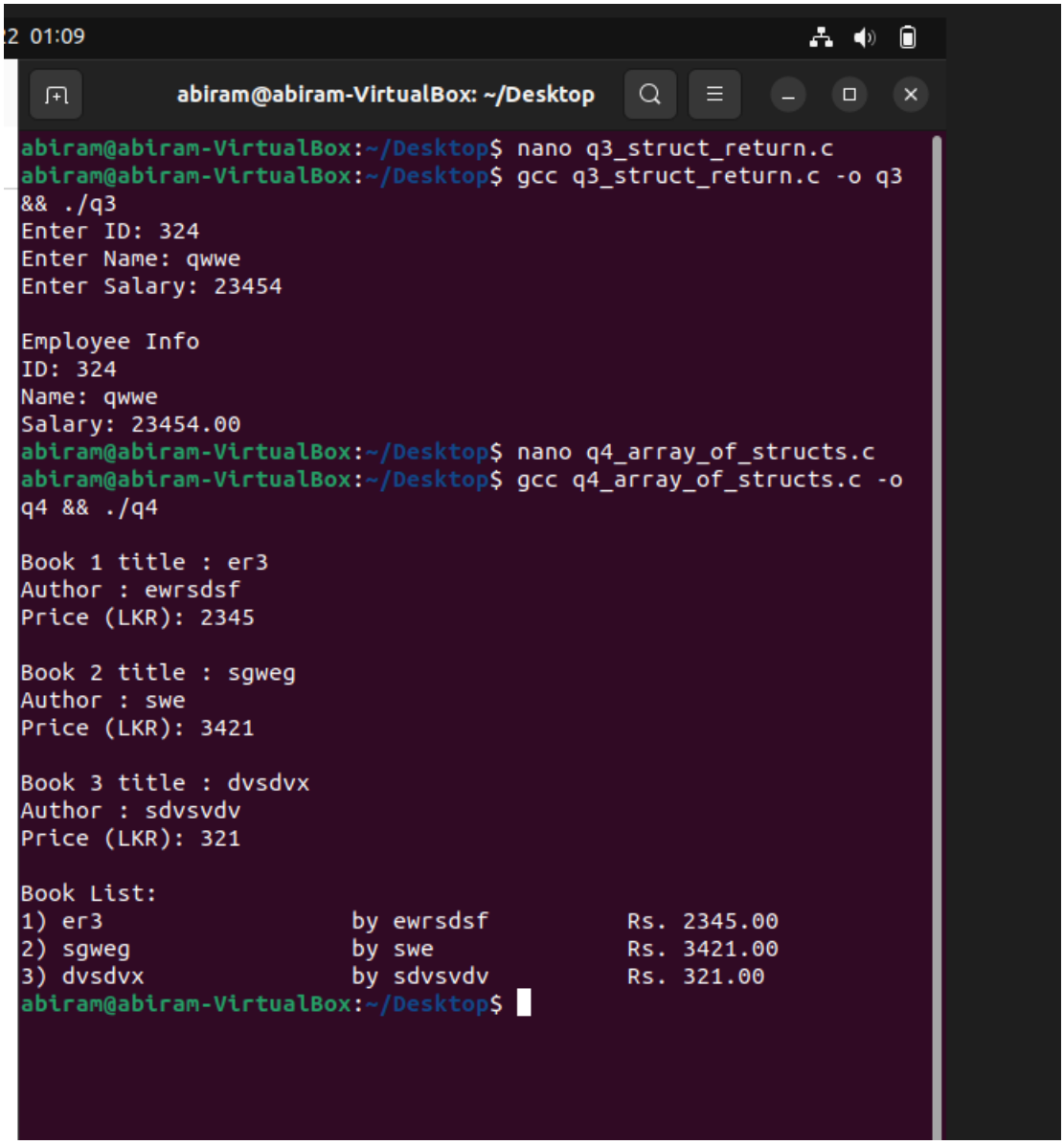

2 01:07
abiram@abiram-VirtualBox: ~/Desktop
abiram@abiram-VirtualBox:~/Desktop$ nano q3_struct_return.c
abiram@abiram-VirtualBox:~/Desktop$ gcc q3_struct_return.c -o q3
&& ./q3
Enter ID: 324
Enter Name: qwwe
Enter Salary: 23454
Employee Info
ID: 324
Name: qwwe
Salary: 23454.00
abiram@abiram-VirtualBox:~/Desktop$

Q4)

Code


2 01:08
abiram@abiram-VirtualBox: ~/Desktop
GNU nano 6.2 q4_array_of_structs.c *
#include <stdio.h>
#include <string.h>
#define N 3
struct Book {
char title[60];
char author[40];
float price;
};
int main(void){
struct Book books[N];
for(int i=0; i<N; ++i){
printf("\nBook %d title : ", i+1);
fgets(books[i].title, sizeof books[i].title, stdin);
books[i].title[strcspn(books[i].title, "\n")] = 0;
printf("Author : ");
fgets(books[i].author, sizeof books[i].author, stdin);
books[i].author[strcspn(books[i].author, "\n")] = 0;
printf("Price (LKR): ");
scanf("%f", &books[i].price);
getchar(); // clear newline
}
printf("\nBook List:\n");
for(int i=0;i<N;++i)
printf("%d) %-20s by %-15s Rs. %.2f\n", i+1,
books[i].title, books[i].author, books[i].price);
return 0;
}
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute

Output


2 01:09
abiram@abiram-VirtualBox: ~/Desktop
abiram@abiram-VirtualBox:~/Desktop$ nano q3_struct_return.c
abiram@abiram-VirtualBox:~/Desktop$ gcc q3_struct_return.c -o q3
&& ./q3
Enter ID: 324
Enter Name: qwwe
Enter Salary: 23454
Employee Info
ID: 324
Name: qwwe
Salary: 23454.00
abiram@abiram-VirtualBox:~/Desktop$ nano q4_array_of_structs.c
abiram@abiram-VirtualBox:~/Desktop$ gcc q4_array_of_structs.c -o
q4 && ./q4
Book 1 title : er3
Author : ewrsdsf
Price (LKR): 2345
Book 2 title : sgweg
Author : swe
Price (LKR): 3421
Book 3 title : dvsdvx
Author : sdvsvdv
Price (LKR): 321
Book List:
1) er3 by ewrsdsf Rs. 2345.00
2) sgweg by swe Rs. 3421.00
3) dvsdvx by sdvsvdv Rs. 321.00
abiram@abiram-VirtualBox:~/Desktop$

Q5)

Code


2 01:10
abiram@abiram-VirtualBox: ~/Desktop
GNU nano 6.2 q5_parallel_vs_struct.c *
SS#include <stdio.h>
#include <string.h>
#define N 3
// Using parallel arrays
void parallel_arrays(void){
char names[N][40];
int marks[N];
printf("\n[Parallel Arrays]\n");
for(int i=0;i<N;++i){
printf("Name: ");
scanf(" %39[^\n]", names[i]);
printf("Marks: ");
scanf("%d", &marks[i]);
}
printf("\nResults (Parallel)\n");
for(int i=0;i<N;++i)
printf("%-15s %3d\n", names[i], marks[i]);
}
// Using array of structures
struct Student {
char name[40];
int marks;
};
void array_of_structs(void){
struct Student s[N];
printf("\n[Array of Structures]\n");
for(int i=0;i<N;++i){
printf("Name: ");
scanf(" %39[^\n]", s[i].name);
printf("Marks: ");
scanf("%d", &s[i].marks);
}
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify