

Structured Programming Language

Assignment - 01

MD MUSFIQUR RAHMAN

011 221 334

Section : F

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Section - A (Set A)

① Last four digits of student id - 1334

$$\text{int } a = 1334 / 7 =$$

```
int b = 1334 % 7 =
```

$$\text{float } c = (\text{float}) 133417 =$$

$$\text{float } d = (\text{float})(1334/7) =$$

② $\text{int } n = 334\%66 = 4$
 $\text{int } i = 0, \text{value_final} = 0;$

n	i	!z==n	value of	++i
4	0	-	0	-
4	0	T	0	1
4	2	T	4	3
4	4	T	20	5
4	6	F		

value $f + i = 1 \times i = 4, 4 + 4 \times 4 = 20$
 $f + i$

③ $\text{int } a = 1334 \% 3 + 4 = 3$

```
int b = 1334 % 2 + 1 = 1
```

$$\text{int } c = 1334 \cdot 2 + 2 = 4$$

[illegible]

for loop (i)	i < 8	case(0)	case(1)	case(2)	case(3)	case(4)	case(5)	default
7	T							i = 12 break
8	False	-	-	-	-	-	-	-

④ $\text{int } A[4] = \{0\}$ $A[i] = n + i$
 $\text{int } i, n;$ $\text{if } (A[i] \% 2 == 0)$
 $n = 1334$ $A[i] *= 2$

i	n	A[0]	A[1]	A[2]	A[3]	i < 4
garbage	garbage	0	0	0	0	-
garbage	1334	0	0	0	0	-
0	1334	1334	0	0	0	True
1	1334	1334	1335	0	0	T
1	1334	1334	2670	0	0	T
2	1334	1334	2670	1336	0	T
3	1334	1334	2670	1336	1337	T
3	1334	1334	2670	1336	2674	T
4	1334	-	-	-	-	False

Section - B

⑤ #include <stdio.h>

int main() {

int a = 1334 + 3;

int b = a + 11;

b = b / 15;

float c = a + b;

c = c + 1;

printf("%d\n, %d\n %f\n", a, b, c);

return 0;

}

⑥ #include <stdio.h>

int main {

int a = (334 % 17) + 3

int b = (34 % 21) + 5

int c;

scanf("%d", &c);

if (c > a && c > b) {

if (c % 2 == 0) {

printf("c is largest and even\n");

} else {

printf("c is largest and odd\n");

}

else if (c > a) {

if (c % 3 == 0) {

printf("c crossed a and divisible by 3\n");

}

else {

printf("c is not divisible by 3\n");

}

else if (c > b) {

if (c % 5 == 0) {

printf("c crossed b and divisible by 5\n");

}

```

else {
    printf ("c is not divisible by 5\n");
}

else {
    printf ("c is not larger than a or b\n");
}

return 0;
}

```

```

⑦ #include <stdio.h>
int main () {
    int i, j, n;
    scanf ("%d %d %d ", &i, &j, &n);

    int sum = 0;

    for (int k = 0; k <= n; k++) {
        sum += ((k*i) + ((k-1)*j));
    }
    printf ("%d", sum);

    if (sum % 2 == 0)
        printf ("011 221 334");

    else {
        printf ("Md Mustique Rahman");
    }

    return 0;
}

```

⑧ #include <stdio.h>

int main() {

int b = (34 % 21) + 5; int a = 1339

int A[10] = {0};

for (int i = 0; i < 10; i++)

{ A[i] = a % 7 + 3 * i;

}

int sum = 0

for (int i = 0; i < 10; i++) {

if (i % 2 == 0)

{ sum += A[i];

}

{ printf ("%d", sum);

return 0;

}

①

```

  (a) #include <stdio.h>
      int main ( ) {
          int a, b;
          float sum;
          scanf ( " %d %d ", &a, &b);
          sum = a;
          printf ( " %f ", sum);
          return 0;
      }
  
```

- ②
- (i) MorningHello
 - (ii) Invalid answer
 - (iii) Best
 - (iv) wishes! Invalid answer

```

  (a) #include <stdio.h>
      int main ( ) {
          int A1, B1;
          scanf ( " %d %d ", &A1, &B1);
          if ( A1 == B1 )
              { printf ( " Draw! " );
              }
          else if ( A1 > B1 )
              { printf ( " Team A win! " );
              }
          else { printf ( " Team B win! " );
          }
          return 0;
      }
  
```

② @ #include <stdio.h>

void main()

float sum = 0;

for(int i = 10; j = 1; i > 0; i = i + 2; j++) {

sum += i - j

}

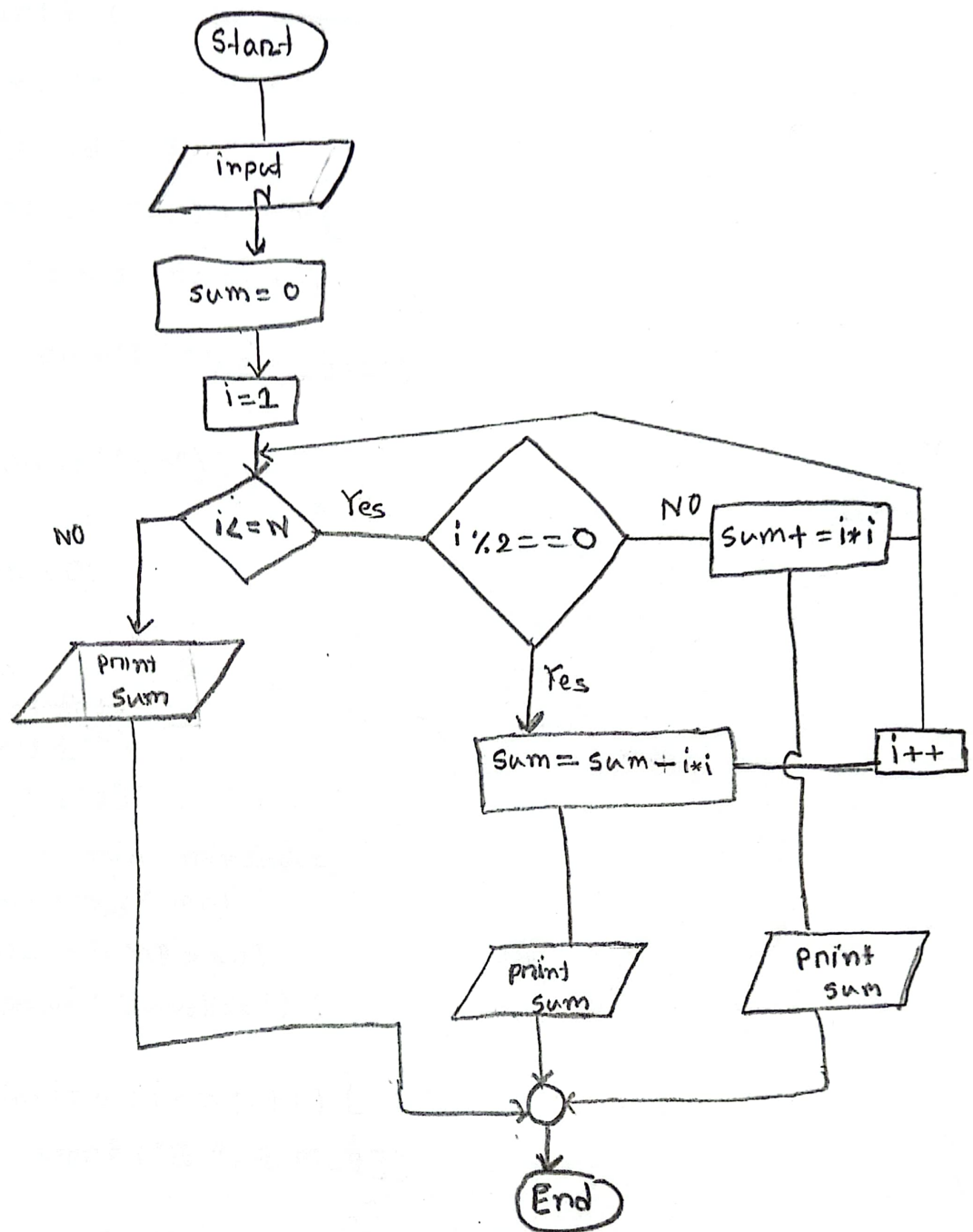
}

=> sum = 0.0

i	j	i > 0	sum	i + 2	j + 1
10	1	T	9.00	12	2
12	2	T	19.00	14	3
14	3	T	30.00	16	4
16	4	T	42.00	18	5
18	5	T	55.00	20	6

..... here this loop run infinity time because of "i > 0" condition.

b) $1^2 - 2^2 + 3^2 - 4^2 + \dots - n$



③

```
#include <stdio.h>
int main() {
    int n, i, j;
    scanf("%d", &n);
    for(i = n; i >= 1; i--) {
        for(j = 1; j <= i; j++) {
            printf("%c", j+64);
        }
        printf("\n");
    }
    return 0;
}
```

④

⑥ #include <stdio.h>

```
int main() {
    int m[50];
    int n, min, minIndex;
    scanf("%d", &n);
    if (n <= 0 || n > 50) {
        printf("Invalid");
    }
    for(int i = 0; i < n; i++) {
        scanf("%d", &m[i]);
    }
    min = m[0];
    minIndex = 0;
    for(int i = 1; i < n; i++) {
        if (m[i] < min) {
            min = m[i];
            minIndex = i;
        }
    }
    printf("Minimum Number: %d, Minimum index: %d",
        min, minIndex);
    return 0;
}
```

@

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

```
int main() {
```

```
    float num;
```

```
    float sum;
```

```
    int count = 0;
```

```
    for (int i = 1; i <= 4; i++) {
```

```
        printf ("num = ");
```

```
        if (scanf ("%f", &num) != 1) {
```

```
            printf ("Invalid input ");
```

```
            while (getchar() != '\n');
```

```
            i--;
```

```
            continue;
```

```
        }
```

```
        if (num > 0) {
```

```
            sum += num
```

```
            count ++
```

```
            printf ("Average = %.1f \n", sum/count);
```

```
        } else
```

```
            { printf ("- \n");
```

```
        }
```

```
        printf ("Average = %.1f \n", sum/count);
```

```
        return 0;
```

```
    }
```

4a) $\text{int arr1}[5] = \{1, 2, 3, 4, 5\}$
 $\text{int arr2}[5] = \{5, 4, 3, 2, 1\}$
 $\text{int arr3}[5];$

if ($\text{arr1}[i] = \text{arr2}[j]$)
 $\{$ $n++$
 $m = \text{arr1}[i]$
 $\text{arr3}[i] = m$
 $\}$

$m = n = 0$

$i = 0,$ $j = 0$ $m = 0$ $n = 0$
 $j = 1$ $m = 0$ $n = 0$
 $j = 2$ $m = 0$ $n = 0$
 $j = 3$ $m = 0$ $n = 0$
 $j = 4$ $m = 1$ $n = 1$

$i = 1,$

j	m	n
0	1	1
$j = 1$	1	1
$j = 2$	1	1
$j = 3$	2	2
$j = 4$	2	2

$i = 2,$

j	m	n
$j = 0$	2	2
$j = 1$	2	2
$j = 2$	3	3
$j = 3$	3	3
$j = 4$	3	3

5) output

1;
 2;
 3;
 4;
 5;
 5;
 4;
 3;
 2;

$i = 3,$

j	m	n
$j = 0$	3	3
$j = 1$	4	4
$j = 2$	4	4
$j = 3$	4	4
$j = 4$	4	4

$i = 4,$

j	m	n
0	5	5
1	5	5
2	5	5
3	5	5
4	5	5

$\text{arr3}[0] = 1$
 $\text{arr3}[1] = 2$
 $\text{arr3}[2] = 3$
 $\text{arr3}[3] = 4$
 $\text{arr3}[4] = 5$